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The Keystone

THE ORGAN OF
THE JEWELRY
& OPTICAL
TRADES.



Copyright, 1896 by E. Thorpe, Publisher 19th & Brown Sts. Phila.

Volume 17

Number 11

November, 1896

ELGIN MOVEMENTS

NEW GRADES

JUST ISSUED

EIGHTEEN, SIX AND NAUGHT SIZES

SEVEN JEWEL—NICKEL

SIXTEEN JEWEL—MICROMETER REGULATOR—NICKEL

NAMELESS—ENGRAVED, ELGIN NAT'L WATCH CO.

EIGHTEEN SIZE

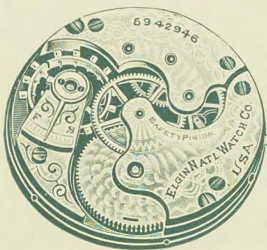


NICKEL

No. 171. HUNTING.
No. 172. OPEN-FACE.

7 Jewels, Compensation Balance, Fine Oval Finished
Regulator, Steel Index, Breguet Hairspring.

SIX SIZE



NICKEL

No. 175.

7 Jewels, Compensation Balance, Full Finished
Regulator, Breguet Hairspring.

NAUGHT SIZE



NICKEL

No. 173.

7 Jewels, Compensation Balance, Full Finished
Regulator, Breguet Hairspring.

SIX SIZE



NICKEL

No. 168.

16 Ruby Jewels, 4½ pairs, Raised Settings, Micrometer Regulator, Gold Index, Compensation Balance, Breguet Hairspring,
Soft Enamel Dial.

NAUGHT SIZE



NICKEL

No. 167.

SEE JOBBERS' LISTS FOR PRICES.

Manufactured and Guaranteed by the

Elgin National Watch Company,

General Offices, 76 Monroe Street, CHICAGO.

FACTORIES—Elgin, Ill.

NEW YORK OFFICE—11 John Street.

Genuine American vs. Imitation Lathes.

821

THE "LANCASTER SPECIAL."

It is not a question for debate as to the relative quality between American and Imported Lathes. So far as we know, all that was ever claimed for the imported product over the American was their lower price. The price of the imported, however, was never as much lower than the American, as was the quality.

As to the relative quality and price of the several American Lathes, we believe it is generally admitted that the "Rivett" holds first place. Admitting this, you will readily appreciate

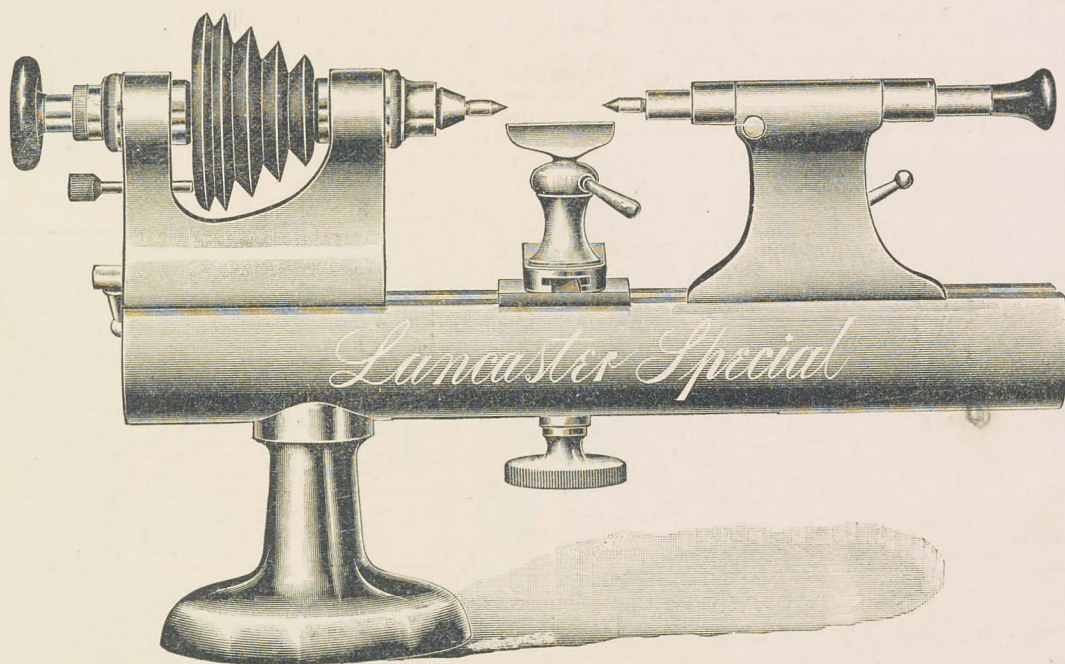
THIS MARVELOUS OPPORTUNITY:

Steel Bed

Hardened Steel
Bearings

Made and Guaranteed by the

Faneuil
Watch Tool Co.



6 Wire Chucks

1 Screw Chuck

1 Taper Chuck

6 Cement Brasses

Leather Belting

This Lathe and Attachments, as illustrated and described above,

\$24.44, net 10 days. \$26.00, net 30 days.

The "**Lancaster Special**" is made by the famous American lathe manufacturers, the Faneuil Watch Tool Co., for us exclusively, under Mr. E. Rivett's personal supervision, with a view to the best interests of the American watchmaker (whom we constantly are endeavoring to serve), by giving him the best Lathe for the least money to be found on the American market.

At the above price, the profit to both the manufacturers and ourselves is short, and we hereby reserve the right to advance the price later. We expect a large sale, and will enter and fill orders in rotation as received.

The chucks for these Lathes are true, and we can supply any size at any time in the future (this is not the case with most imported lathes and chucks).

The special Rivett Slide-Rest, which we advertised recently, can be added to this Lathe. On no Lathe can you get so wide a range of usefulness for so little money as in the "**Lancaster Special**" and its attachments.

Don't buy a Lathe of any kind before getting our prices. **Don't forget** we carry a full and complete line of Rivetts and all other standard makes of goods. **Don't forget** that our stock of Polishing Lathes, Foot-Wheels, Work Benches, and staple goods generally, was never more complete. We promise **Good Goods, Correct Prices, Prompt Service.**

If you have not received our "Special Sale" price-list, send for it; it will be a money-saver for you. Staple goods at cut prices for a short season.

This is the season when you want to fix on your house for your "hurry up" jobs over the holiday season. Try our Manufacturing and Repairing Departments, and see how well and promptly we can serve you.

L. C. Reisner, Assignee of

Ezra F. Bowman & Co.

Importers, Manufacturers and Jobbers,

Watch Material, Tools and Supplies,
Lancaster, Pa.

Repairers
and Engravers
for the Trade.
We are leaders in
Watch Case Repairs
of all kinds.

Sole Agents
U. S. and Canada
for the L^s Ed. Junod
Jewel Factories,
Switzerland.

The Ezra F. Bowman Technical School has the best instructors and the best discipline, and undertakes to turn out the best workmen, and such as will be able to get and HOLD positions.

EZRA F. BOWMAN, Manager.

Indorsed by the Profession as the Best

The **CR** Mainsprings, for all styles of American and Swiss Watches.

Sold by us to the trade for 43 years. Every known improvement in the science of spring-making has been embodied in their construction, and we confidently submit it to the faculty as the best Spring on the market to-day.

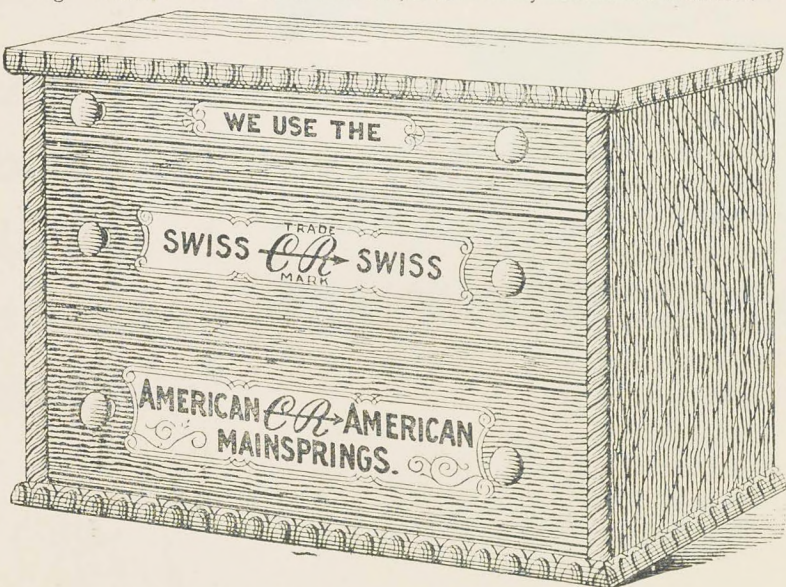
SOMETHING FOR NOTHING cannot be had every day. But we have a few of the **CR** Mainspring Cabinets which are free to all who are willing to use the celebrated **CR** Mainsprings.

The **CR** Mainspring Cabinet.

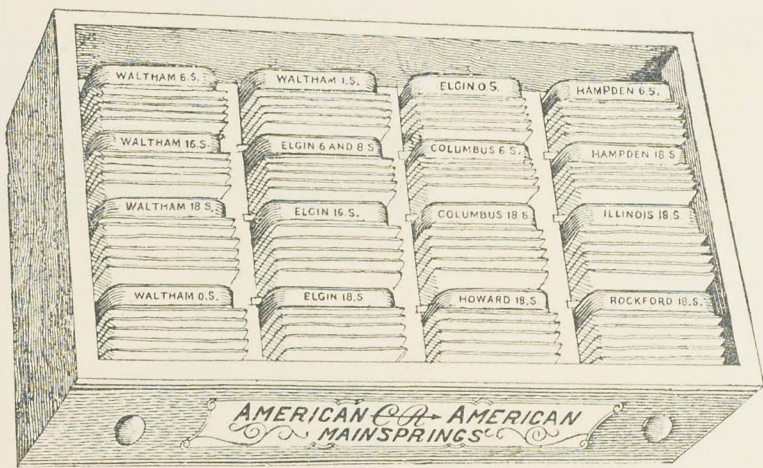
The only Cabinet (given away) that provides for the Watchmaker's LOOSE American and Swiss Mainsprings.

The practicability of the interior arrangement is one of the special features of this Cabinet, as it not only provides for the full packages, but contains a series of twenty-six handsomely decorated metal boxes printed on cover and inside box, designating sizes, grades, number, class, width and strength by Dennison's gauge. These boxes go with each Cabinet, and are specially adapted for the loose mainsprings which naturally accumulate in every watchmaker's stock.

This feature alone will not only save valuable time to the watchmaker, but will save many dollars in preserving your springs from rust and unnecessary handling. The Cabinet is made of solid oak, is handsomely finished and decorated, and will be an ornament to any store or workshop.



Size, 15 inches long, 10 inches high and 9 1/4 inches deep.
Capacity, 10 Gross American and Swiss **CR** Springs.



Interior view of drawer, showing our perfected arrangement for taking care of loose Springs.

READ WHAT OTHERS SAY:

Pilot Point, Tex., April 25, 1896.
L. H. KELLER & Co.

The **CR** Springs are all O. K. Much obliged for promptness with which you filled our order. Enclosed you will find check for amount.

Very truly yours,
MAURER & ELMORE.

Albany, N. Y., Aug. 15, 1896.
L. H. KELLER & Co.

Gentlemen: I have received the pretty Mainspring Cabinet, for which please accept my best thanks.

Yours respectfully,
H. HOREND.

York, Pa., Sept. 8, 1896.
L. H. KELLER & Co.

Dear Sirs: I received the Mainspring Cabinet and think it is a beauty. Please accept my many thanks for same. Will try and repay you for your kindness.

Very respectfully yours,
HARRY E. BEMIS.

Springfield, Mass., Aug. 29, 1896.
L. H. KELLER & Co.

Gentlemen: The Mainspring Case came yesterday. We think we shall find it very useful, and are greatly obliged to you for it.

Yours truly,
WOODS & HOSLEY.

Bradford, Pa., August 17, 1896.
L. H. KELLER & Co.

Gents: I received the Mainspring Cabinet, for which I thank you very much. It will enable me to keep my loose and other springs in good shape, and is very convenient.

Very respectfully yours,
J. B. CROSS.

Penn Yan, N. Y., Oct. 1, 1896.
L. H. KELLER & Co.

Dear Sirs: The **CR** Mainspring Cabinet received. We are very much pleased with it. Many thanks.

Yours, etc.,
WHEELER & SHERMAN.

Meriden, Conn., Aug. 15, 1896.
L. H. KELLER & Co.

Gentlemen: Please accept my best thanks for the pretty and nicely made Mainspring Cabinet which I received to-day.

I appreciate it very much.
Yours truly,
OSCAR ZUBE.

Canton, Ohio, Oct. 6, 1896.
L. H. KELLER & Co.

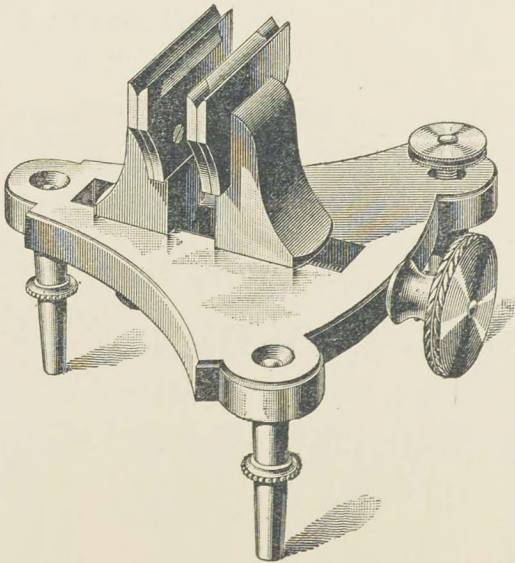
Gents: The Mainspring Case which you kindly sent me, to hand. It is a very pretty case, and am much pleased with it. Many thanks for same.

J. F. WESER.

These are only a few of the many hundreds of unsolicited testimonials we have received from some of the most critical watchmakers throughout the country. **CR** Mainsprings cost no more than other springs. Write to us for prices and how to get one of these handsome Cabinets FREE OF CHARGE.

The L. H. K. & Co.
"Perfection"
Poising Tool

must be seen to be appreciated.
Must be tested to convince the
most sceptical of its superiority.



Made of solid nickel, finely damaskeened. Stones are finest quality of Agate, mirror polished and protected by solid nickel jaws.

Price, each, \$6.25.

Less 6 per cent. - 10 days.
" 5 " " - 30 "

L. H. KELLER & CO.,

Importers, Manufacturers and Jobbers
Fine Watch Material, Tools and Supplies,
64 Nassau Street, NEW YORK.

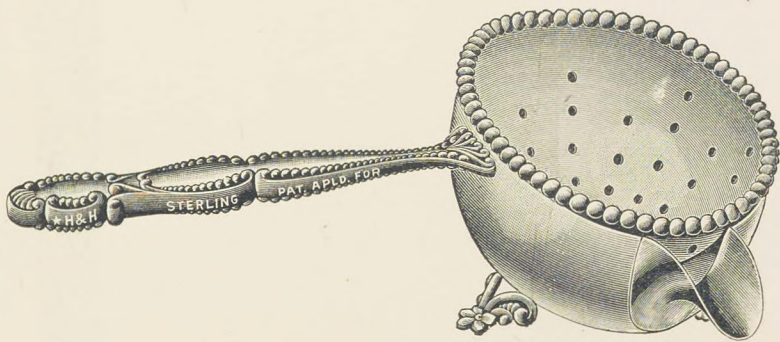
THE RIVERSIDE MAXIMUS A BEAUTIFUL NEW MOVEMENT FOR JEWELERS WHO HAVE CUSTOMERS WITH DISCRIMINATING TASTE



¶ *Made in 16, 12, 6 and O size. The price of 16 and 12 size is \$80.00 (according to KEYSTONE Key); price of 6 and O size is \$50.00 (according to KEYSTONE Key). We have stock for immediate delivery. Following is description of 16 and 12 size:*

¶ 21 Diamond and Ruby Jewels; Two Pairs Diamond Caps; Both Balance Pivots Running on Diamonds; Raised Gold Settings; Gold Train; Jewel Pin set without Shellac; Double Roller Escapement; Exposed Pallets; Patent Micrometer Regulator; Compensation Balance, Accurately Adjusted to Temperature, Isochronism and Position and Carefully Timed; Patent Breguet Hairspring, Hardened and Tempered in Form; Fine Glass Hand Painted Dial of Most Modern and Artistic Design. The superior construction of this movement adapts it to the most exacting service.

*The NON-RETAILING CO., Jobbers in
Watches, Chains and Spectacles, LANCASTER, PA.*

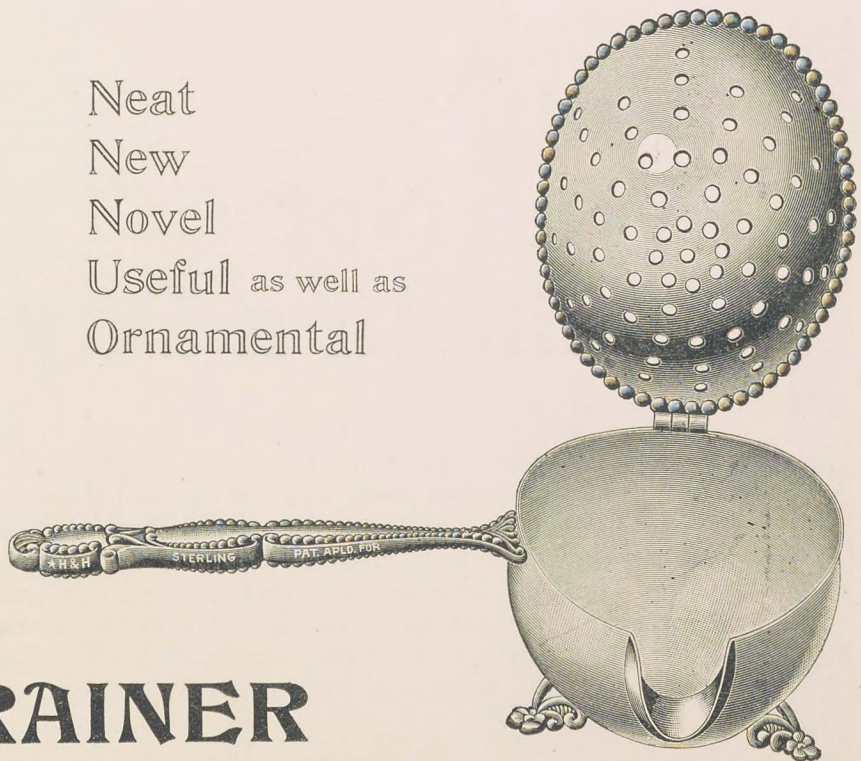


FULL SIZE. CLOSED.

No. 953. Satin outside. Bright inside.
No. 954. Bright finish.
No. 955. Bright outside. Gold-lined.

ORDER BY NUMBERS.

Neat
New
Novel
Useful as well as
Ornamental



FULL SIZE. OPEN.

PATENT TEA STRAINER

STERLING SILVER 925 FINE.
1000

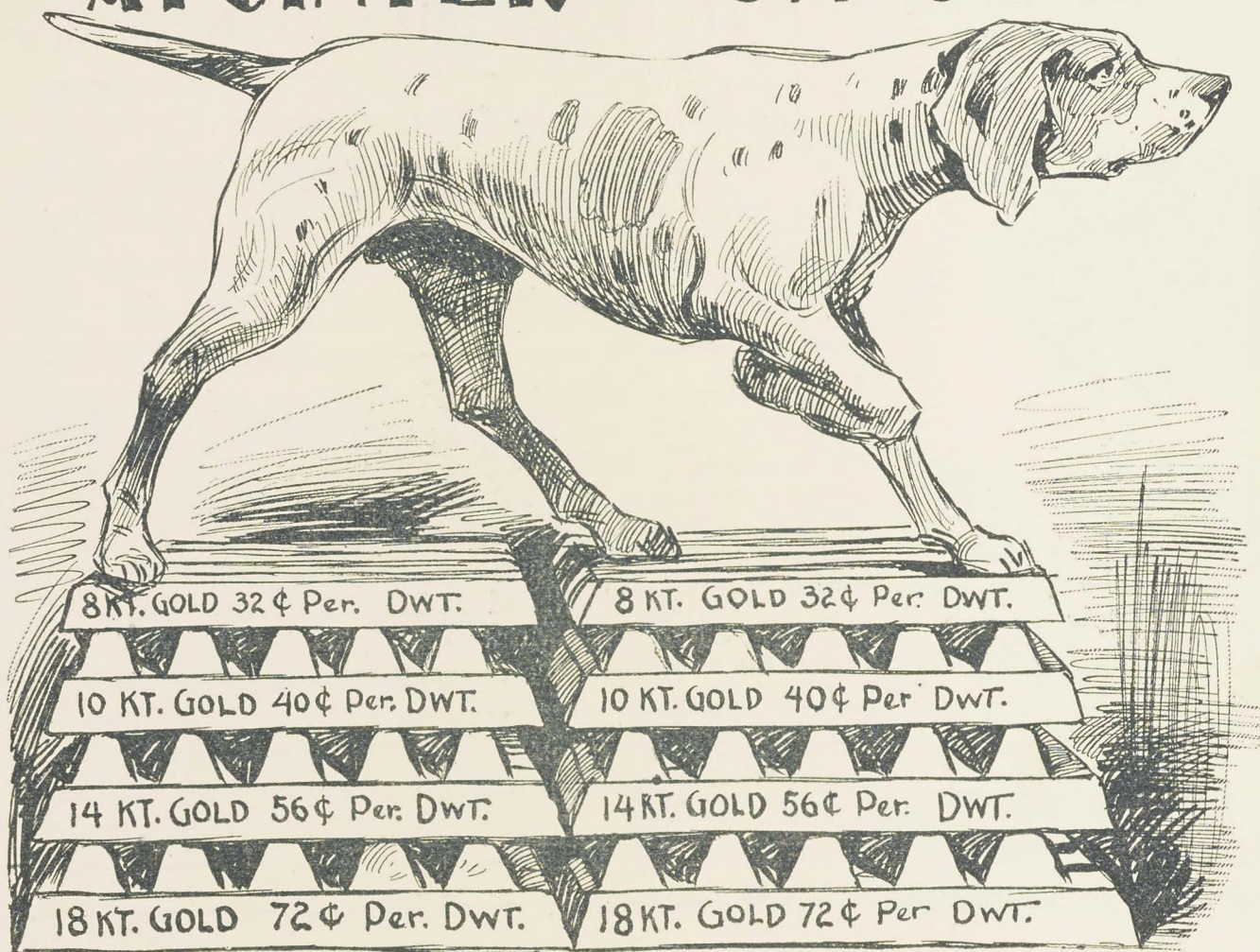
ALL GOODS BEARING OUR REGISTERED TRADE-MARK ★ H & H ARE GUARANTEED.

HAMILTON & HAMILTON, JR.

MANUFACTURING JEWELERS AND SILVERSMITHS.
MAKERS OF FILLED CHAINS.

PROVIDENCE, R. I.

A POINTER - ON GOLD.



Rome Was Not Built In a Day

neither was our present business; but years of hard, persistent hammering for trade, and a plan which is fair and square to all, to take care of it when once secured, have accomplished much.

Our course has been as clear as the unbounded sea; our purpose as inflexible as casted steel. Our principles—registered with the trade some years ago, accepted by the trade—will only perish when leadership is deserted by ambition, and progress becomes an exploded conceit.

The best advertisement we have had has been the continual growth of our business, showing your approval and confidence in our ability to take care of the Smelting and Refining business.

Our plan is to hold your consignment of old gold or silver intact, and returning it at our own expense if our offer should not prove satisfactory.

GOLDSMITH BROS.

SWEEP SMELTERS, REFINERS AND ASSAYERS,

63 & 65 Washington Street, Chicago.

THE ELECTION!!!

Complete Returns From
Every State!

A LANDSLIDE!

ENORMOUS MAJORITIES!

The Popular Choice No Longer
A Matter of Doubt!

The Question as to the Standard
Definitely Settled!

At this writing, the actual casting of the vote has not yet begun, but that exercise is now only a matter of routine, as the *result* of the voting has already been scientifically and accurately foretold by the Countagraph, the latest invention of Thomas A. Eddy's-son.

This remarkable device enables one to calculate events thirty-six hours before they come to pass. We are therefore able to lay before our readers the result of the election which is yet to take place, and relate history while it is yet "in the egg."

An immense majority will vote in favor of the New York Standard Watch. In two-thirds of the districts there will be practically no opposition, and the candidates from Switzerland will not be mentioned in the returns. In the State of Happiness, State of Peacefulmind and State of Commonsense the vote will be unanimous for "The Best Watch in the World for the Money"; and the only States which will return any sort of showing for the opposition are the State of Ignorance, State of Mossback and the Territory of Prejudice.

Col. Fifteen-Hundred-and-Thirty-One will have a walkover in every part of the country. Hon. Forty-Four will sweep the North, South, East and West. In fact, every name on the Standard ticket will secure the enthusiastic support of every American, outside of the lunatic asylums, the homes for the blind, and the cemeteries.

The reasons for this overwhelming victory are not hard to find. The high personal qualities of the various candidates on the ticket are supplemented by the platform on which they stand. This platform declares for Protection to the movement (by being properly cased), and provides for Free Trade to the jeweler by reason of the low prices at which the products of the New York Standard Watch Co. can be sold to his customers. It declares that the best "standard" for "all sorts and conditions of men" (who are curious as to the time of day) is the Standard Watch; and the people respond to this platform utterance in a ratio of 16,000 who will buy the watch to 1 who won't.

This sweeping victory for the New York Standard Watch indicates such practical unanimity among the masses in its favor that it is safe to conclude its term of office will be extended indefinitely, even if it is not immediately proclaimed to be absolute ruler, by the will of the people. Long live this free King of a free vest-pocket!

A GLASS STRIKE SETTLED.

PITTSBURG, PA., Oct. 31.—At to-night's session of the conference between the green glass manufacturers and workers the latter agreed to a reduction of 5 per cent. in last year.

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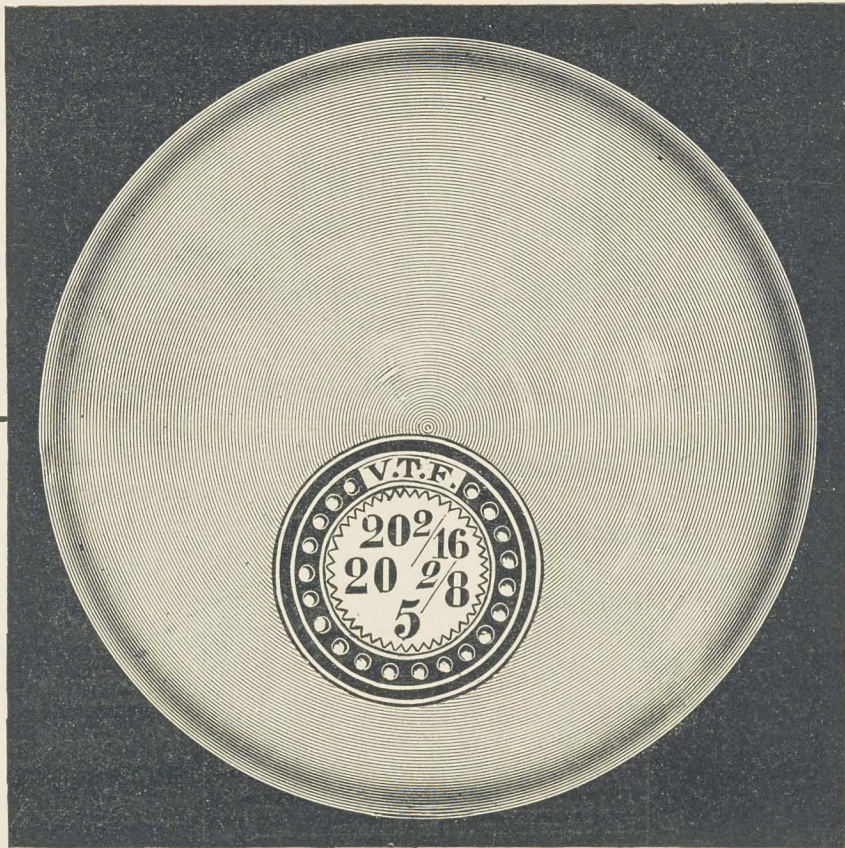
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Horticultural Hall.

session an invitation
ew Horticultural
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V.T.F.

FOR SALE BY ALL LEADING JOBBERS

V.	Means everything that is first quality in a Watch Glass.	T.	Without V. T. F. on each and every label you are	F.	in danger of receiving inferior quality. Can you afford to?
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V.T.F. are made in larger quantities than all others.

V.T.F. are used by more watchmakers than all others.

V.T.F. are used by more case-makers than all others.

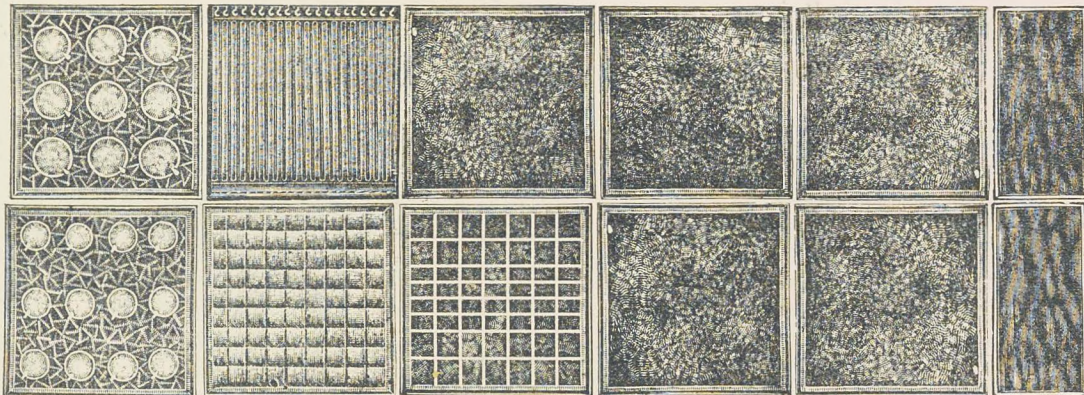
V.T.F. cost no more and are better than all others.

 The success of the copy the label, but not the one Beaded Border **V.T.F.** has induced others to quality. There is only Label with **V.T.F.** and that STANDS ALONE AS THE PERFECT WATCH GLASS

Attractive Show Cases and Clean Goods Help Win Trade.

827

And first-class Trays are now so cheap that every jeweler can afford them. If we do not illustrate what you want, write to us about it and let us quote prices.



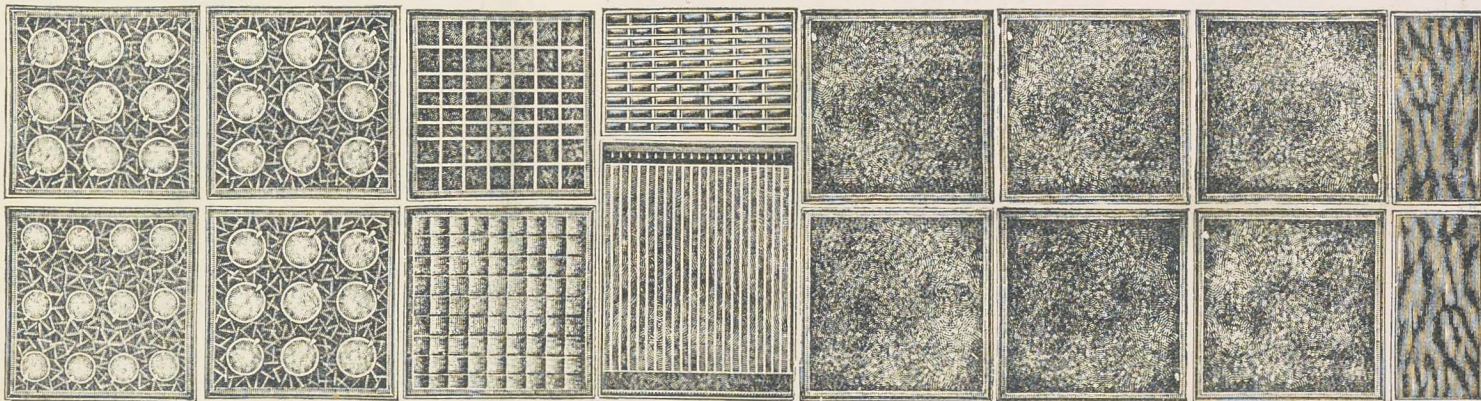
Set of Trays No. 20. Price, \$8.50, less 6 per cent. for cash.
For 6-foot show-case, inside measurement 66 x 23½ inches.

Set of Trays No. 20

Consists of

2	Plush-Lined	Stack	Watch	Trays
1	"	"	Chain	"
1	"	"	Ring	"
1	"	"	Charm	"
7	Velvet-	"	Leather-Bound	Plain

Plush Trays are made to stack, lined with good quality ruby plush.



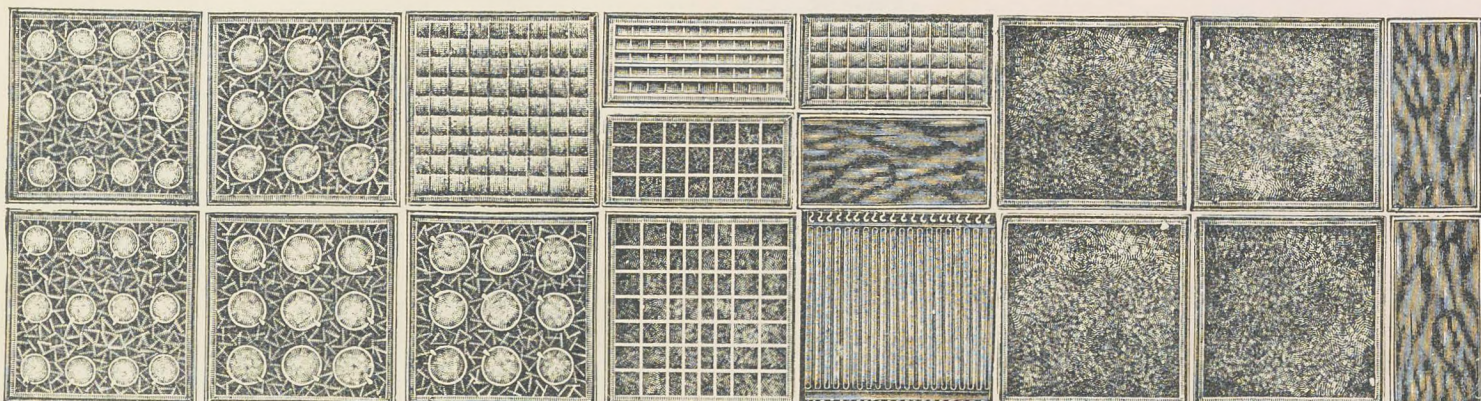
Set of Trays No. 21. Price, \$15.62, less 6 per cent. for cash.
For 8-foot show-case, inside measurement 90 x 23½ inches.

Set No. 21

Consists of

4	Plush	Watch	Trays.
1	"	Charm	"
1	"	Ring	"
1	"	Thimble	"
1	"	Chain	"
8	"	Plain	"

Trays above are made to stack and are lined with ruby plush of good quality.



Set of Trays No. 22. Price, \$17.38, less 6 per cent. for cash.
For 8-foot show-case.

Set No. 22

Consists of

5	Plush	Watch	Trays.
2	"	Ring	"
2	"	Charm	"
1	"	Thimble	"
1	"	Chain	"
7	"	Plain	"

Same style trays as in Set No. 21.

Combination can be changed, if desired, by substituting Trays of same price. We warrant our Trays not to split or warp out of shape.

See September Keystone, page 655, for prices of Boxes, and consult our New Illustrated Catalogue for prices of other Trays, Jewelers' Findings, etc.

Material and Tool Orders we care for promptly, and get them to you according to order. No guesswork.

E. & J. SWIGART,

CINCINNATI, OHIO.

DO You Appreciate
SALABLE WATCHES ?

Of Course You **DO!**

 18 SIZE TIME KING 21 JEWELS	THEN BUY THE NEW 21 JEWELLED WATCHES TIME KING 18 SIZE AND RUBY 16 SIZE MADE BY THE New Columbus Watch Co. COLUMBUS, OHIO Finest Adjusted Railway Watches Made	 21 JEWELLED ❖ RUBY ❖ 16 SIZE
WILL SURELY SELL! NEW AND ATTRACTIVE		ALL OUR MAKE OF WATCHES ARE LEVER SET

**TRADE
ANNOUNCEMENT!**

Our Salesman



We take pleasure in announcing to the trade, that as successors to the business of the firm of

F. M. SPROEHNLE & CO.,

we have every facility for filling orders from

Our Salesman CATALOGUE

that the old firm enjoyed, and take this method to assure the old customers and friends of the above house, that we shall be pleased to receive their orders for any goods listed in this widely known Catalogue, the same to receive our most careful and prompt attention.

ROGERS-WILLIAMS MFG. CO., Wholesale Jewelers,
Columbus Memorial Building, 103 State Street, Chicago.

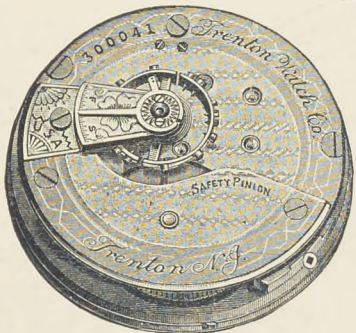
ELECTION IS OVER!

829

THE COUNTRY IS SAFE!

Wheat is commanding a good price. The farmer is prosperous. Prepare for big trade with salable goods at right prices.

— HERE ARE BOTH —



Gilt or Nickel Damaskeened, Seven Jewels, Cut Expansion Balance, Safety Pinion, Right-Angle Lever Escapement, Screw Bankings, Quick Train, Handsome White Enamel Dial, and fitting all regular 18 size Lever or Pendant Set Cases.



Gilt or Nickel Stem-Winding and Lever Setting, Regular Model Movements, Solid Plates, separate Bridge for Barrel, Quick Train, Cut Expansion Balance, Safety Pinion, and fitting all makes of 6 size regular Model Lever or Pendant Set Cases.

Extraordinary Purchase of TRENTON MOVEMENTS.

Compare these prices with all previous quotations.

18 Size Hunting.

2001.	In Silverine Case	\$ 5.90
2002.	In Plated Case	6.30
2003.	In 5-Year Filled Case	11.50
2004.	In 15-Year, 14 K. Filled Case	14.40
2005.	In 20-Year, 14 K. Filled Case	23.50
2006.	In Silver, 2 oz., E. T. Case	10.50
2007.	In Silver, 2 oz., Eng. Case	11.00

18 Size Open-Face.

2008.	In Silverine Case	\$ 5.40
2009.	In Plated Case	7.90
2010.	In 5-Year Filled Case	10.90
2011.	In 15-Year Filled Case	12.40
2012.	In 20-Year Filled Case	18.60
2013.	In Silver, 2 oz., E. T. Case	10.40
2014.	In Silver, 2 oz., Eng. Case	10.90

6 Size Hunting.

2015.	In Plated Case	\$ 7.00
2016.	In Silver, E. T. Case	9.00
2017.	In Silver, Eng. Case	10.00
2018.	In 5-Year Filled	11.50
2019.	In 15-Year, 14 K. Filled	17.00
2020.	In 20-Year, 14 K. Filled	17.50

ALL PRICES QUOTED ARE ACCORDING TO KEYSTONE KEY.

Price includes choice of Elgin or Waltham Movement.

REGULAR PRICE { Case alone, \$14.00 } DO A LITTLE
Movement alone, 10.00 } FIGURING.



Guaranteed to
Wear
20 Years.



No. 1001. O SIZE. No. 1002.



Guaranteed to
Wear
20 Years.

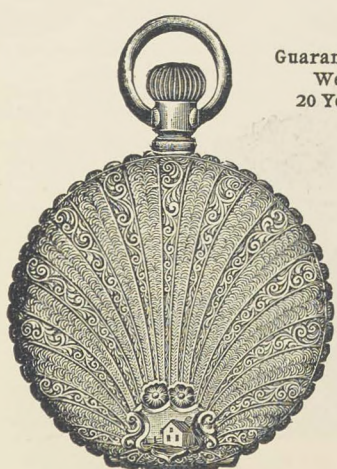


No. 1003. O SIZE. No. 1004.

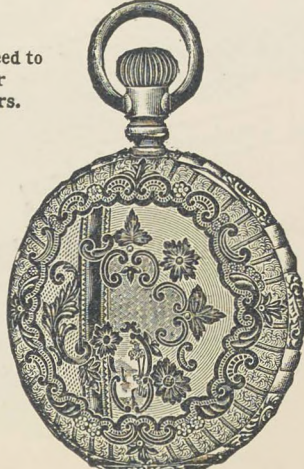
ALL PRICES QUOTED ARE ACCORDING TO KEYSTONE KEY.

The Manufacturers of these Cases will Not Permit us to Advertise Their Name.

Every Case bears their Guarantee to wear for 20 and 25 Years. They are 14 K. Filled. These Cases are sold by EVERY retail jeweler in the land.



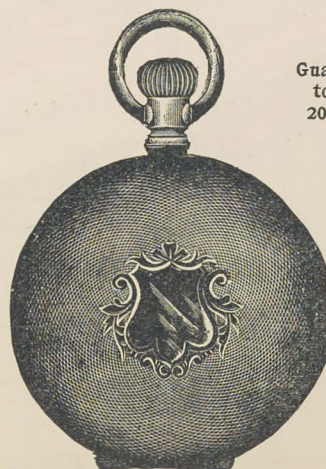
Guaranteed to
Wear
20 Years.



D211 A252
— 6 SIZE. —



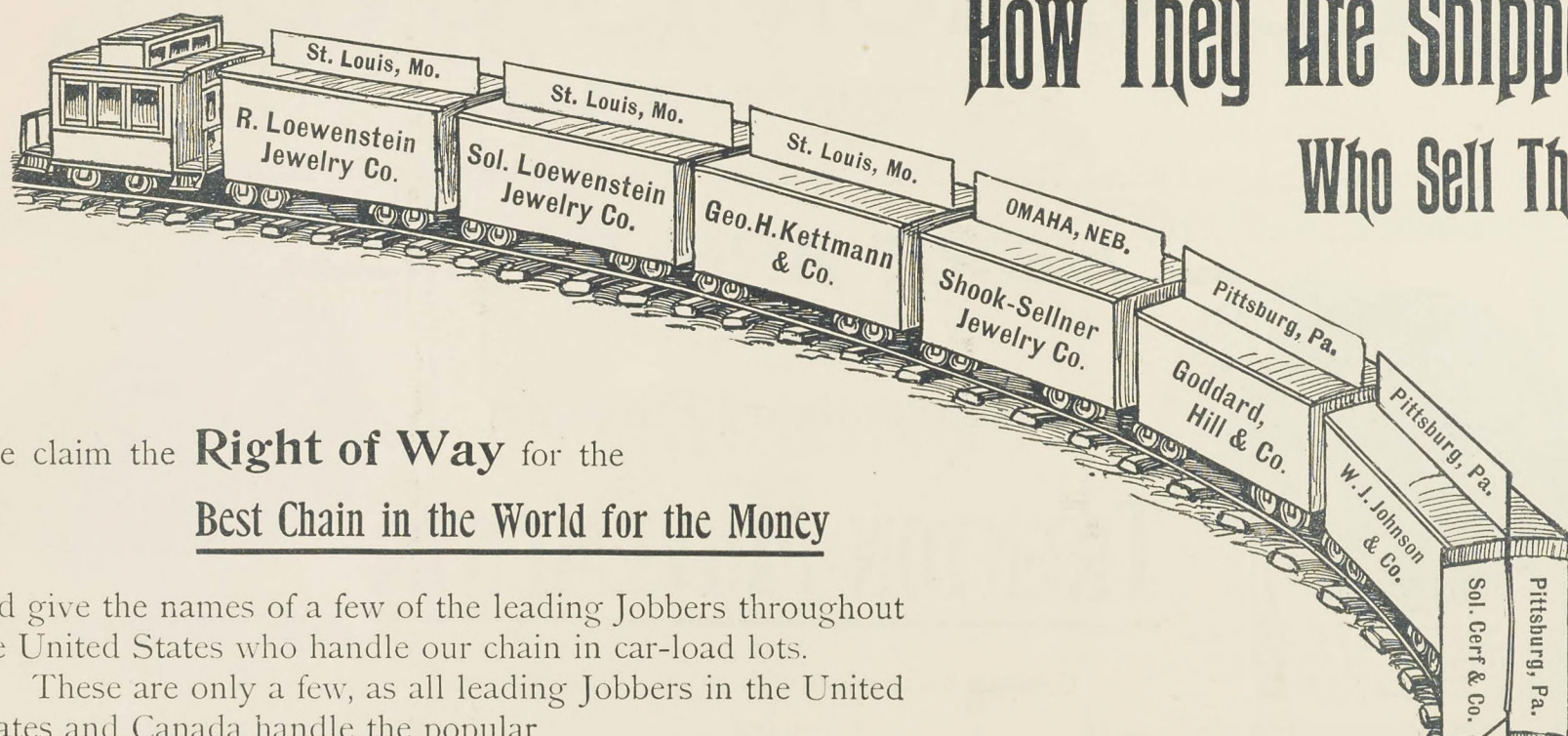
Guaranteed to
Wear
20 Years.



C 200 D 205
— 6 SIZE. —

WM. I. ROSENFELD, 8 Maiden Lane, New York.

How They Are Shipped Who Sell Them

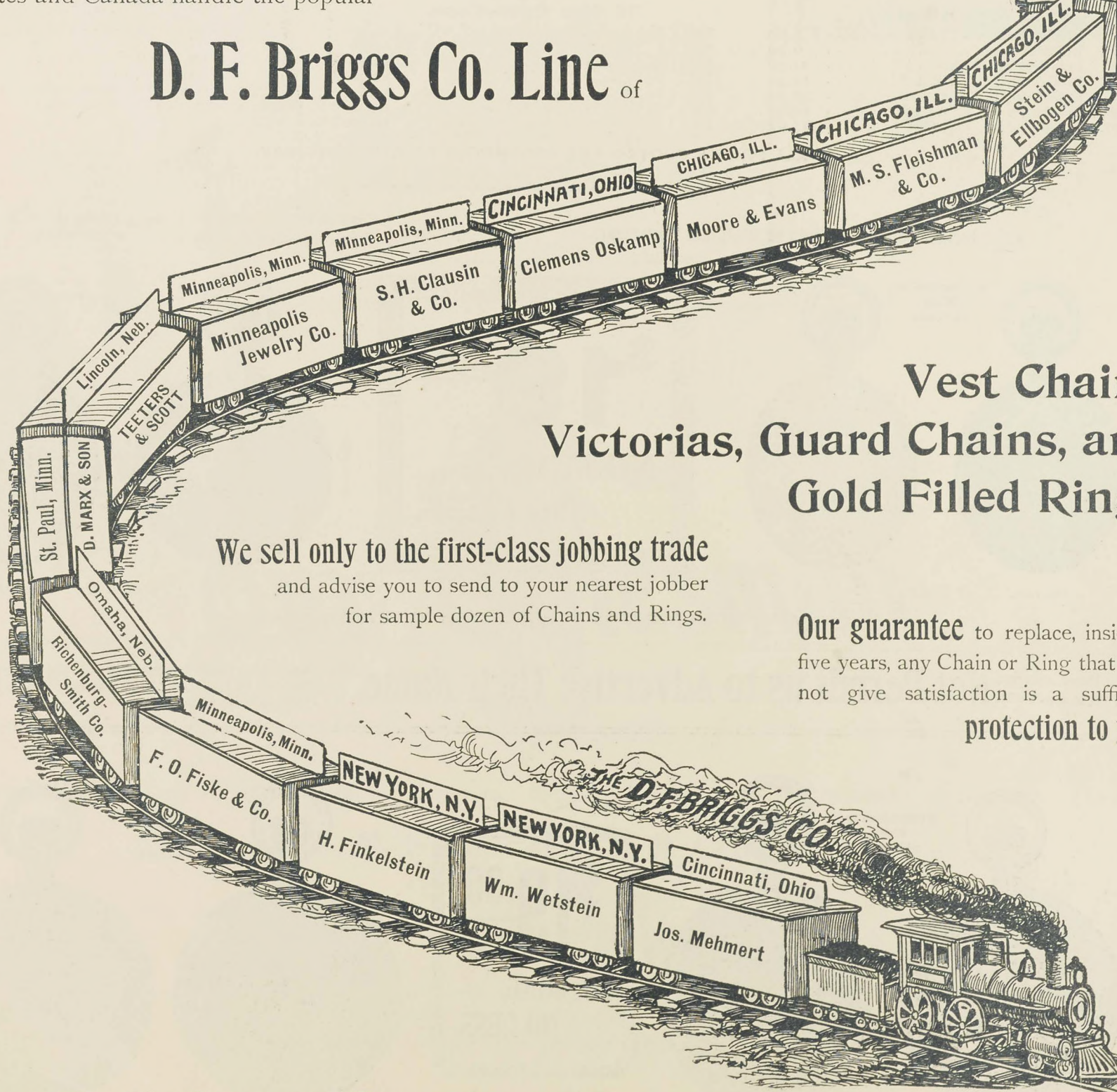


We claim the **Right of Way** for the
Best Chain in the World for the Money

and give the names of a few of the leading Jobbers throughout the United States who handle our chain in car-load lots.

These are only a few, as all leading Jobbers in the United States and Canada handle the popular

D. F. Briggs Co. Line of



Vest Chains Victorias, Guard Chains, and Gold Filled Rings

We sell only to the first-class jobbing trade
and advise you to send to your nearest jobber
for sample dozen of Chains and Rings.

Our guarantee to replace, inside of
five years, any Chain or Ring that does
not give satisfaction is a sufficient
protection to you.

THE D. F. BRIGGS CO.
ATTLEBORO, MASS.

NEW YORK OFFICE: 200 Broadway.

"IMPERIAL" MAINSPRINGS

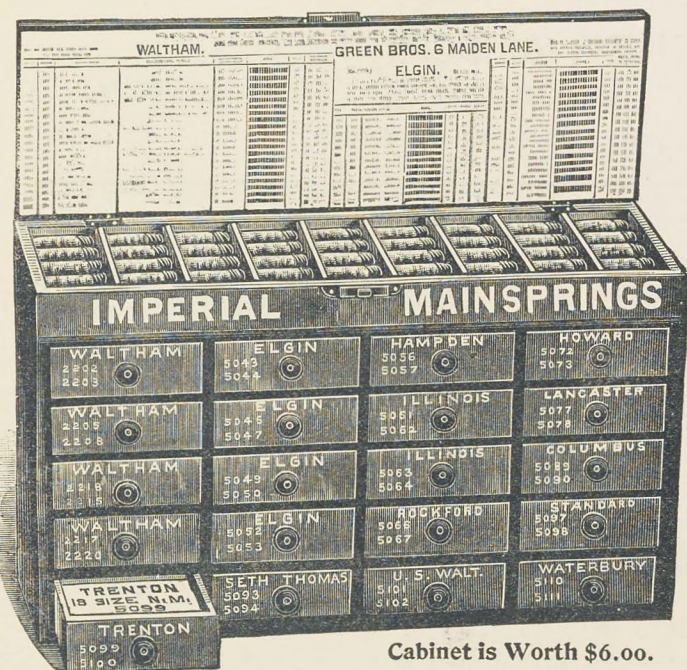
Why is the demand for the

greater than all others?

Because they are the best, the most reliable,
are put up in the most convenient manner, and
are "Guaranteed for One Year."

Price, **\$12⁰⁰** per Gross,
or \$1.00 per Dozen.

Cabinet Sent GRATIS!

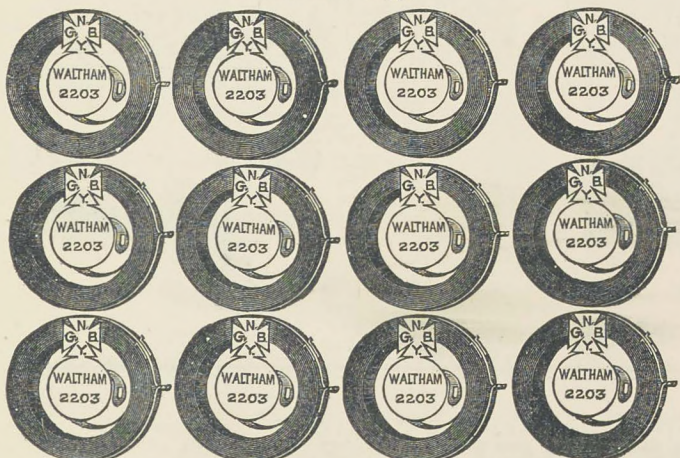


Cabinet is Worth \$6.00.

SPECIAL NOTICE.

With a first order of one gross of the Imperial Mainsprings, we send gratis our improved handsome polished Solid Black Walnut, Oak or Cherry Mainspring Cabinet, as shown in cut. It is well made, cabinet finished and dovetailed throughout, and the cover closes with a patent snap lock, nickel-plated. It is the only cabinet made that will properly systematize and keep in thorough order the many American and Swiss mainsprings necessary at the present time, and will be greatly appreciated by all watchmakers. Besides being very useful, it makes a very handsome appearance. It has twenty drawers, with fancy knobs, brass trimmed, and the top is arranged in grooves for thirty-six screw-top glass bottles for watch and jobbing materials. It will hold FORTY-EIGHT dozen Imperial American or Swiss Springs. We also include two sets of perforated gummed labels, with name, number and size of the springs, so the drawers can be numbered as desired. These numbers correspond to a directory of all American springs which is printed on the inside cover, showing the correct style, width and strength by Dennison's Standard Mainspring Gauge, and the proper numbers and names for ordering. Size of Cabinet, 16 inches long, 6 inches wide and 11 inches high.

Fac-Simile of ONE DOZEN NO. 2203 Imperial Springs,
Coiled and Tagged.



None Genuine unless marked G. B. and bearing our Registered Trade-Mark.

Every day we receive the most flattering unsolicited testimonials,
a sample of which we submit as follows:

54 and 56 Seneca Street,
BUFFALO, N. Y., March 2, 1896.
MESSRS. GREEN BROS., New York.
DEAR SIR: We have been using your Imperial Mainsprings for some time,
and can say for them, I think they are the best springs I ever used. The finish and
make are good, and their durability unexcelled by even the higher priced springs.
Should prefer them to any spring I ever used.
Respectfully,
Watch Inspector and Adjuster for N. Y., L. E. & W. R. R.;
L. S. & M. S. R. R.; L. V. R. R.; B. R. & P. R. R.

ATLANTA, GA., August 14th, 1896.
DEAR SIR: Please accept thanks for your handsome Imperial Mainspring
Cabinet. I think it is the best Cabinet made for mainsprings, and I do not believe
there are any better springs in the market, at any price, than the Imperial.
Yours very truly,
W. M. MCNEAL.

No. 15 Dexter Avenue,
MONTGOMERY, ALA., January 28th, 1896.
GREEN BROS., New York.
DEAR SIR: I have used a good many of your Imperial American Mainsprings,
and find them good; the best I have ever had. Very truly yours, C. L. RUTH.

The following list shows the CORRECT STYLES, WIDTH and STRENGTH by DENNISON'S STANDARD
Mainspring Gauge and the proper NUMBERS and NAMES for ordering the



Exact cut of the Imperial Spring,
coiled and tagged.

The Imperial Mainsprings are guaranteed for one year.
Each Spring bears the Initials, G. B.

Each Spring is tagged with the Name and Size; for FINISH, TEMPER, ELASTICITY and DURABILITY they have no equal.

NOTE.—By giving the number no mistake
can occur in filling order.

Waltham,

Price \$12.00 Per Gross.

No.	Size	Name	Description of Barrel	Description of Movement	Style	Width	Average Strength
2201	18	Old Style	Gilt Barrel	Full Plate		19	3 to 4
2202	18	New Style	Gilt Barrel	Full Plate		19	3 to 4
2203	18	New Model	Nickel and Gilt Barrel, "Wide"	Full Plate		20	2 1/2 to 3 1/2
2204	18	New Model O. F.	Nickel and Gilt Barrel, "Narrow"	Full Plate		16	2 to 3
2205	18	Pend. and Lever Set	Nickel and Gilt Barrel	Full Plate		21	1 to 2
2206	18	Crescent St.	Gilt Barrel, "Narrow"	Full Plate		14	1 1/2 to 2 1/2
2207	18	Crescent St.	Gilt Barrel, "Wide"	Full Plate		16	2 1/2 to 3 1/2
2222	18	Vanguard Movement	Steel Barrel	Full Plate		23	3 1/2 to 4 1/2
2208	16	Lever Set	Nickel and Gilt Barrel	3/4 Plate		14	2 1/2 to 3 1/2
2218	16	Pendant Set	Steel Barrel	3/4 Plate		19	4 to 5
2209	14	Adams St. and Cres. Gard. K. W.	Gilt Barrel	3/4 Plate		14	3 to 4 1/2
2210	14	Old Style	Nickel and Gilt Barrel, "Narrow"	3/4 Plate		12	2 to 3
2211	14	New Style	Nickel and Gilt Barrel, "Wide"	3/4 Plate		16	2 1/2 to 3 1/2
2214	10	Key Wind	Gilt Barrel	3/4 Plate		14	3 to 4
2215	8 and 6	Lever Set	Nickel and Gilt Barrel	3/4 Plate		10	3 to 4
2217	6	Pendant Set	Nickel and Gilt Barrel	3/4 Plate		10	5 to 6
2219	6	Pendant Set	Steel Barrel	3/4 Plate		11	7 to 8
2216	1 and 0	Old Style	Nickel and Gilt Barrel	3/4 Plate		8	6 to 7
2220	0	Pendant Set	Steel Barrel	3/4 Plate		7	7 to 8
2221	00	Pendant Set	Nickel Barrel	3/4 Plate		7	7 1/2 to 8 1/2

GREEN BROS., 6 Maiden Lane, New York.

Elgin.

NOTE.—The Double Braced Springs are now being used in all Elgin Watches.
It can be used in Watches having the Old Style Single Braced Main-
spring, by filing off one side. By giving the number, no mistake can
occur in filling orders.

No.	Size	Name	Style	Class	Width	Average Strength
5041	18	Double Braced		1	20	4
5042	18	Double Braced		2	20	3
5043	18	Double Braced		3	20	2
5044	18	Double Braced		4	20	1
5045	16	Double Braced		1	18	4
5046	16	Double Braced		2	18	3
5047	16	Double Braced		3	18	2
5048	6 and 8	Double Braced		1	10	7
5049	6 and 8	Double Braced		2	10	6
5050	6 and 8	Double Braced		3	10	5
5051	0	Double Braced		1	4	10
5052	0	Double Braced		2	4	9
5053	0	Double Braced		3	4	8

Hampden.

No.	Size	Name	Style	Wide	Average Strength
5056	18	New Style		20	2 to 3
5057	16	New Style		20	4 to 5
5058	6	New Style		9	5 to 6
5059	000	New Style		5	7 1/2 to 8

Illinois.

No.	Size	Name	Style	Wide	Average Strength
5061	18	New Style		20	2 1/2 to 3 1/2
5062	16	New Style		17	2 to 3
5063	8	New Style		10	3 1/2 to 4 1/2
5064	6 and 4	New Style		9	5 to 6

Rockford.

No.	Size	Name	Style	Wide	Average Strength
5067	18	New Style, H. C.		19	2 to 3
5068	18	New Style, O. F.		17	2 to 3
5069	6	New Style		10	5 to 6

Howard (\$1.50 per doz.)

No.	Size	Name	Style	Wide	Average Strength
5072	18	New Style		19	3 1/2 to 4 1/2
5073	16	New Style		19	4 to 5

Lancaster or Keystone.

No.	Size	Name	Style	Width	Average Strength
5077	18	Old Model		20	2 to 3
5078	18	New Model		18	2 to 3

Columbus

No.	Size	Name	Style	Width	Average Strength
5089	18	New Style		20	2 1/2 to 3 1/2
5090	16	New Style		15	3 to 4
5091	6	New Style		10	5 to 6

Seth Thomas

No.	Size	Name	Style	Width	Average Strength
5093	18	New Style		24	4 1/2 to 5 1/2
5094	6	New Style		10	5 1/2 to 6 1/2

Standard

No.	Size	Name	Style	Width	Average Strength
5097	18	New Style		21	2 to 3
5098	6	New Style		10	5 to 6

Trenton

No.	Size	Name	Style	Width	Average Strength
5099	18	New Style		20	3 to 4
5100	6	New Style		10	4 to 5

United States Waltham

No.	Size	Name	Style	Width	Average Strength
5101	18	New Style		20	2 1/2 to 3 1/2
5102	16	New Style		13	4 to 5
5103	6	New Style		10	4 1/2 to 5 1/2

Waterbury.

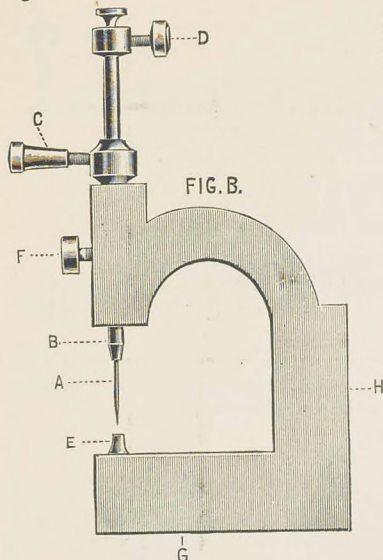
No.	Name	Style	Width	Average Strength
5110	Series E Plain Style		18	8
5111	Series I Plain Style		18	5
5112	Series J New Style		19	6
5113	Series K Plain Style		18	6
5114	Series L New Style		10	7 1/2
5115	Series N Plain Style		10	9
5116	Series P New Style		10	8
5117	Series R Plain Style		12	7
5118	Series S Slip Style		3	10 1/2
5119	Series T Slip Style		12	6
5120	Series W Slip Style		10	9

Copyrighted 1895, by Green Bros., New York.

GREEN BROS. 6 Maiden Lane, New York

Importers and Jobbers of Fine Grade Watch Materials, Tools and Jewelers' General Supplies.

"Orders filled correctly from any Catalogue, at lowest market prices."



Striker's Patent Balance-Staff and Pivot Length Gauge for the Artist Watch Repairer.

Will save you time! You will never have to do a job twice over. The correct fitting of balance-staff made extremely simple and absolutely certain. No more **guessing** or **making allowances**. No fear when the staff is finished it will be too **long** or too **short**.

In making a new Staff, it is a simple and exact gauge for finding the extreme length the Staff should be, and retaining that measurement, so that you can make comparisons at any time during the operation of building a new Staff. It will locate with absolute accuracy the Balance or Roller Seats.

For pivoting it is worth its price alone. The length of a broken-off balance-pivot can be obtained in a few seconds. Once you place your staff in chuck to turn pivot, you need never **remove it to make length measurements**, as by use of the Double Stem (Fig. A) all measurements are taken while your staff is in chuck.

Full instructions sent with every tool. It is finely finished throughout, and every tool is guaranteed to be perfect. Send for one, and if not satisfactory after a fair trial money will be cheerfully refunded. \$2.00 with order, and we will send post **prepaid**. Nickel, \$2.50.

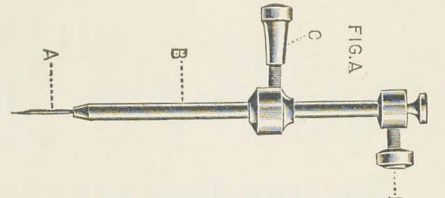


Fig. A is the double stem removed from Fig. B to make comparative length measurements while staff is in lathe.

GEO. H. STRIKER & SON,

Manufacturers of Fine Watchmakers' Tools,

1883 NIAGARA ST., BUFFALO, N. Y.

FOR SALE BY ALL THE LEADING TOOL AND MATERIAL JOBBERS.

REMOVED to Larger Quarters.

We have recently moved into a larger and more convenient factory in the new

**Jesse Metcalf Building,
144 Pine Street,
Providence, R. I.**

where we have 5,000 square feet of floor space, and every facility for making goods economically and quickly. The natural growth of our business compelled this removal.

Our Specialties:

GOLCONDA GEMS

MOUNTED IN GOLD AND PLATE.

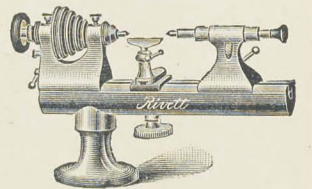
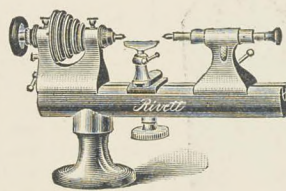
These gems have the genuine diamond fire and finish, and are so perfectly diamond-like in every respect that their identification, when mixed with real diamonds, has puzzled accomplished stone experts.

10 K. GOLD SET RINGS and SCARF PINS,
and the
LATEST NOVELTIES IN PLATED JEWELRY.

R. L. GRIFFITH & SON,

144 Pine Street, Providence, R. I.

Orders Solicited from the Jobbing Trade



First-class Dealers all sell the **RIVETT** lathes, and

First-class Horological Schools use the **RIVETT** lathes.

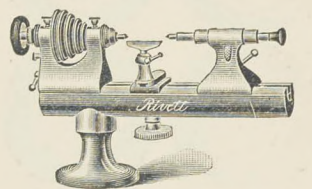
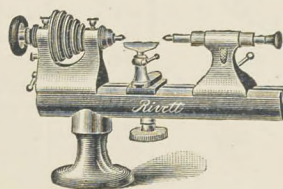
STUDENTS should beware of the conspiracies of unprincipled teachers and dealers.

The Faneuil Watch Tool Co. is always busy, never had to shut down or discharge help on account of dull times; and though we are short of lathes now, it will pay you to wait. Always buy the best and you will always be satisfied.

FANEUIL WATCH TOOL CO.

OFFICE:
474 Washington St.,
BOSTON, MASS.

FACTORY:
Brighton, BOSTON, MASS.
Faneuil Station, B. & A. R. R.



HENRY ZIMMERN & CO.

Importers of

**Watch Materials, Tools, Silk Guards and Optical Goods,
47 MAIDEN LANE, NEW YORK.**

Sole Agents for the

U. S. American Mainsprings and the Celebrated Gold-Tipped Resilient Mainsprings for all grades of American Watches.

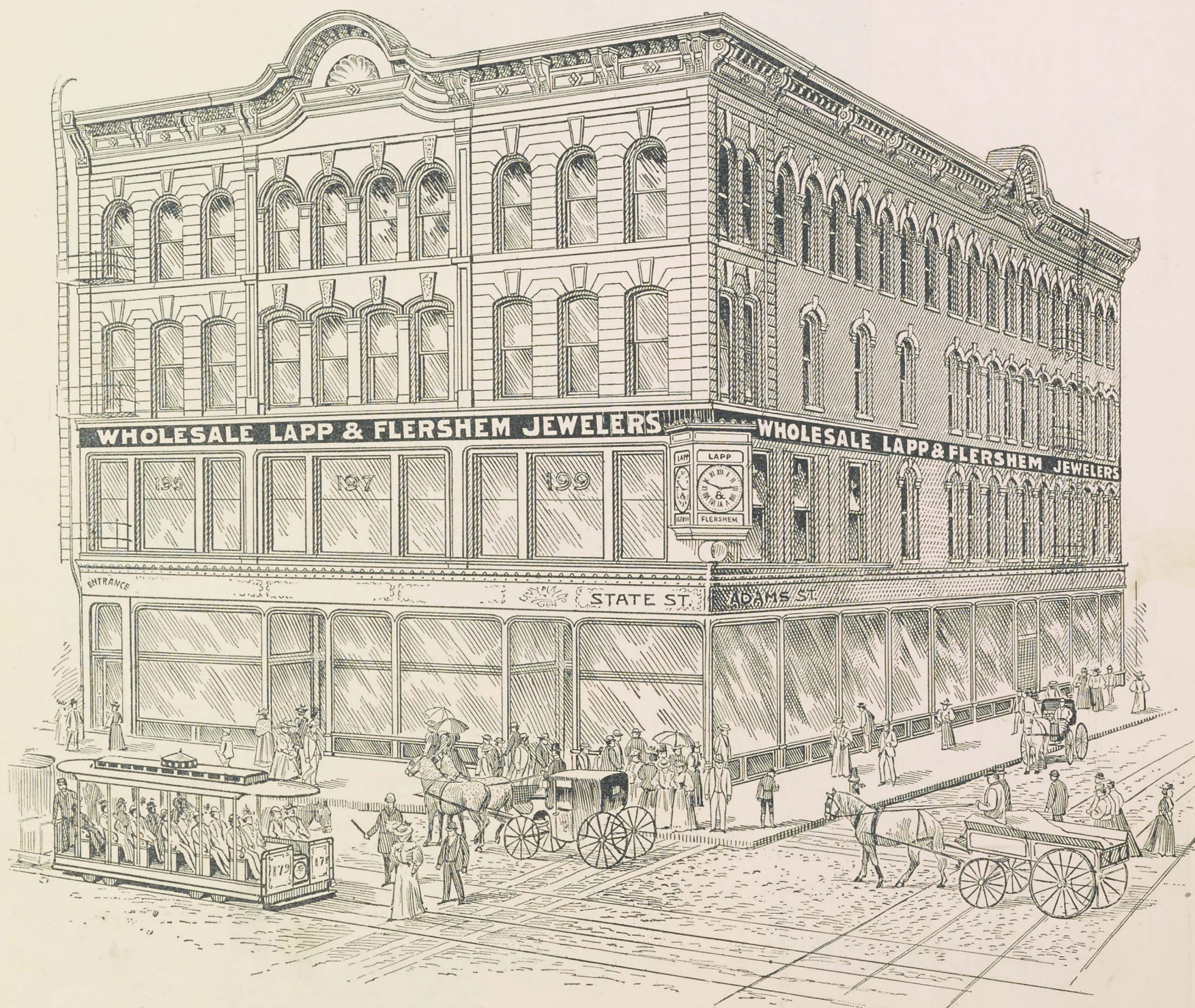
Sole Agents for the well-known **JUNIOR** and **KEYSTONE** Engraving Blocks.

Caution

As a protection against parties who are putting inferior goods on the market, fraudulently representing them to be the celebrated U. S. Mainsprings, we have adopted the annexed trade-mark. See that the initials U. S. are scratched on each spring. All others are poor imitations.

ILLUSTRATION OF OUR NEW STORE⁸³³

We occupy entire second floor, 75x150 feet, making the largest, finest, lightest and most convenient store EVER devoted to the Wholesale Jewelry business.



Improved Facilities for

Filling Orders for all goods needed by Retail Jewelers.

Manufacturing of all kinds of special articles.

Repairing of Watches, Jewelry, and all kinds of goods in connection with the Jewelry business.

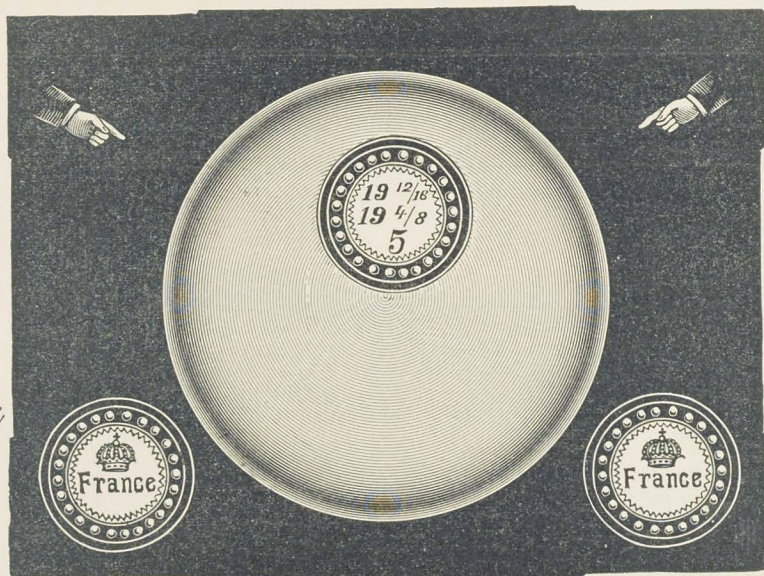
The "Busiest House in America" Catalogue for 1897 will be shipped to our customers the first week in November. Other retail jewelers desiring a copy will please make application with business card. We have a separate Catalogue of **Watchmakers', Jewelers', Engravers', Platers' and Opticians' Tools, Materials and Supplies** of all kinds, which we will also send on application from legitimate trade.

*Send for our Catalogues, and
call on us, when in the city,
at our new store.*

LAPP & FLERSHEM,

195, 197, 199 State Street, Chicago.

N. E. Cor. Adams Street, adjoining Palmer House.

F
R
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EASK
YOUR
JOBBER
FOR
THEM.ASK
YOUR
JOBBER
FOR
THEM.F
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E*"The True Blue"*BEADED
LABEL**FRENCH**WATCH
GLASSES

THE GENUINE FRENCH GLASSES ARE LABELED

FRANCE

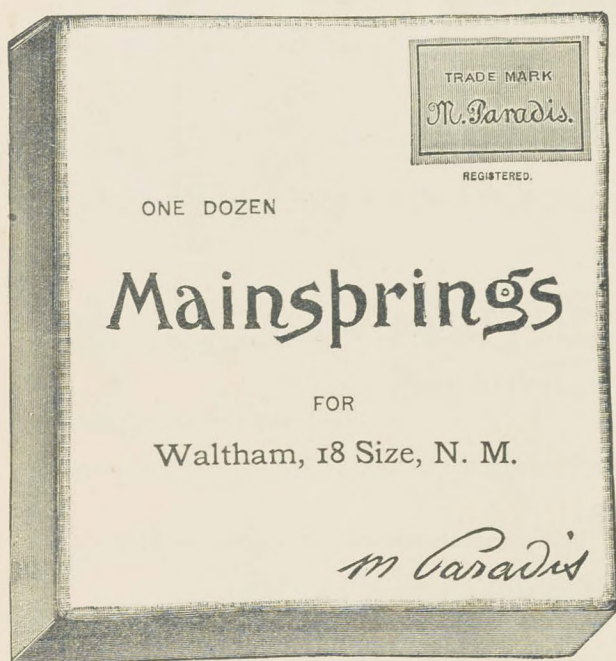
ON EVERY PACKAGE.

These Glasses are preferred wherever Quality, Finish and Accurate Gauging are required.

SUSSFELD, LORSCH & Co.,

16 RUE D'ENGHIEN, PARIS.

37 & 39 MAIDEN LANE, NEW YORK.

THE *m Paradis*

FOR WHICH WE HAVE BEEN THE SOLE AGENTS THESE PAST

30 Years.MADE BY A MANUFACTURER WHO STANDS UNRIVALED IN THE ART OF TEMPERING,
THESE WELL-KNOWN MAINSPRINGS HAVE ALWAYS MAINTAINED THEIR REPUTA-
TION FOR SUPERIOR EXCELLENCE.

ASK YOUR JOBBER FOR THEM.

THE *Monitor*
BRAND LINDSTROM PLIERS ARE MADE OF THE HIGHEST
GRADE SWEDISH STEEL, WHICH FROM ITS NATURE AND STRUCTURE HAS
BEEN FOUND TO BE THE BEST FOR EDGE TOOLS. THEY ALMOST MERIT
THE TERM INDESTRUCTIBLE.

SUSSFELD, LORSCH & Co.,
37 & 39 MAIDEN LANE, NEW YORK.
16 RUE D'ENGHIEN, PARIS.

SOLE AGENTS
UNITED STATES AND CANADA.

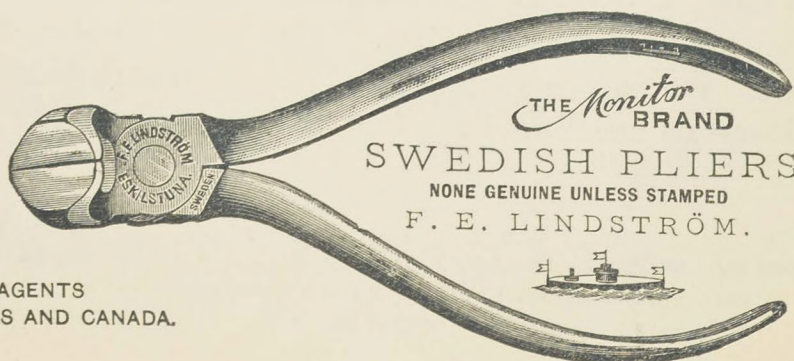


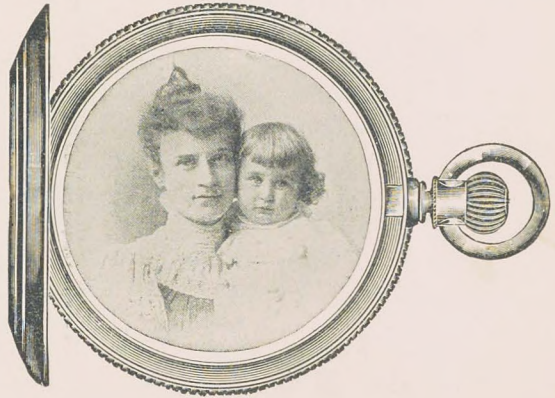
Photo-Miniatures

("BY THE ELMORE ENAMEL PROCESS")

Increase Jeweler's Profits!
Make New Customers!



If you have not our samples (sent free), you are standing in your own light.



Photos. on Dials or Caps, \$1.50.
All orders shipped in twenty-four hours.
We pay return charges.
SATISFACTION GUARANTEED.

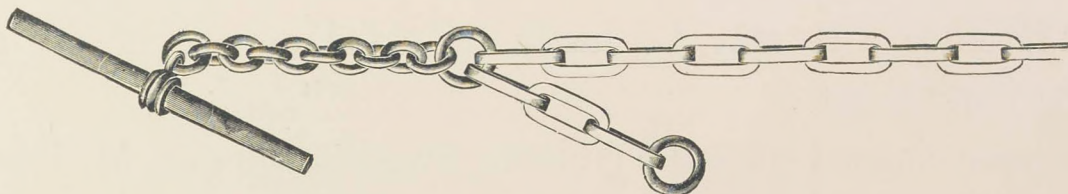
THE ELMORE CO.

115 Dearborn Street, CHICAGO.

HONEST GOODS AT RIGHT PRICES

A GOLDEN MOTTO!

Thoroughly Appreciated by the Jobbing Jewelers Throughout the Country.



The unexpected influx of orders received from all quarters on our **Vest Chains**, and especially our **Ladies' Guards**, convinces us that we have manufactured the finest Rolled-Plate Chain on the market at the price.

*Guards, with Gold Fronts, set with Diamonds,
Opals, Pearls, Rubies and Emeralds.*

A variety equal in finish to any made, and guaranteed to be the finest made for the money.

FONTNEAU, CUMMINGS & FAGAIN,

ATTLEBORO FALLS, MASS.

RIVERSIDE MAXIMUS:

THE MOST HIGHLY AND ARTISTICALLY FINISHED
MOVEMENT IT IS POSSIBLE TO MAKE.

RIVERSIDE MAXIMUS,

NICKEL (16 Size and 12 Size).

21 Diamond and Ruby Jewels; Two Pairs Diamond Caps; Both Balance Pivots Running on Diamonds; Raised Gold Settings; Gold Train; Jewel Pin set without Shellac; Double Roller Escapement; Exposed Pallets; Patent Micrometer Regulator; Compensation Balance, Accurately Adjusted to Temperature, Isochronism and Position and Carefully Timed; Patent Breguet Hairspring; Hardened and Tempered in Form; Fine Glass Hand-Painted Dial of Most Modern and Artistic Design. The superior construction of this movement adapts it to the most exacting service.

RIVERSIDE MAXIMUS,

NICKEL (6 Size and O Size).

19 Diamond and Ruby Jewels; Two Pairs Diamond Caps; Both Balance Pivots Running on Diamonds; Raised Gold Settings; Gold Train; Jewel Pin set without Shellac; Double Roller Escapement; Exposed Pallets; Patent Micrometer Regulator; Compensation Balance, Accurately Adjusted to Temperature, Isochronism and Position and Carefully Timed; Patent Breguet Hairspring; Hardened and Tempered in Form; Fine Glass Hand-Painted Dial of Most Modern and Artistic Design. The superior construction of this movement adapts it to the most exacting service.

The Riverside Maximus may well excite the question: Has not the acme of watch-making been attained? From standpoints both practical and artistic the Maximus is one of the greatest pocket timepieces ever constructed. All the parts in this movement are of the highest quality; every detail of construction expresses the finest workmanship. The double roller escapement, gold train, patent micrometer regulator, diamond and ruby jewels, accurate adjustments and hand-painted dial are features of utility and elegance that render Riverside Maximus a paragon of watch movements. This grade is the best fruits of forty years' experience. It may be justly regarded as one of the great American achievements in mechanical arts.

Twenty years have elapsed since the eminent Swiss horologist, M. Edw. Favre-Perret, paid his splendid tribute to Riverside movements. During that period the progress of Waltham watches has surpassed the predictions of M. Perret, and the witness is Riverside Maximus.

MANUFACTURED AND WARRANTED BY THE

AMERICAN WALTHAM WATCH CO.,
WALTHAM, MASS.



VOLUME XVII.

PHILADELPHIA, NOVEMBER, 1896.

NUMBER 11

THE KEYSTONE

A MONTHLY JOURNAL DEVOTED TO THE INTERESTS
OF THE JEWELRY AND OPTICAL TRADES.

B. THORPE, PUBLISHER.

Subscription—One Dollar per year, postpaid, to all parts of the United States and Canada; single copies, 15 cents. To Foreign Countries \$2.50 per year; single copies, 25 cents.

Payment for THE KEYSTONE, when sent by mail, should be made by a Post-Office Money Order, Bank Check, or Draft, or an Express Money Order. When neither of these can be procured, send the money in a Registered Letter. All Remittances should be made payable to THE KEYSTONE.

Change of Address—Subscribers desiring their address changed should give the old as well as the new address.

Advertisements—Advertising rates furnished on application. No advertisements but those of a reputable character will be inserted.

To Advertisers—Copy for advertisements must reach us by the 25th of each month to insure insertion in the issue of the following month. Notices of changes in advertisements should reach us not later than the 20th of the previous month.

Correspondence—We invite correspondence on all matters of interest to the trade. Correspondents must invariably give their name and address. We do not, however, hold ourselves responsible for the opinions of our correspondents.

All communications should be addressed to

THE KEYSTONE,
19TH & BROWN STREETS,
PHILADELPHIA, PA.

CHICAGO OFFICE 103 STATE ST.

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AS it is our desire that each number of THE KEYSTONE should be mailed at such a date as would best serve both our subscribers and our advertisers, we propose to issue the December number some days earlier than usual, and we wish to hereby notify advertisers that advertisements for insertion in that issue must reach us not later than November 23d.

Voting As a Duty.

EVERY citizen of the United States who enjoys the right of suffrage has an imperative duty to perform on November 3d. Whether he be a Republican or a Democrat, a Populist or a Prohibitionist, whether he believes in the single gold standard or the free coinage of silver, he owes it to his country and to himself to cast his vote for what he honestly believes to be for the best interests of both. There are those citizens who in time past became affiliated to a particular party, and have since continued to vote for that party without paying much attention either to the planks of the platform or the qualifications of the candidate. But this year there has been such a breaking up of old political parties and such a severance of old associations, that those who have taken politics easy in the past, and are averse to the exertion of making up their minds on new issues, are liable to say "A plague on both your houses" and decide in their perplexity not to vote at all. There is little patriotism and less manhood in this decision.

The exercise of the suffrage is the highest privilege of a citizen, and is so regarded. Indeed, those who, from squeamishness, indolence or apathy, may refrain from voting, would be among the first to denounce any attempt to disfranchise them. But they should remember that the exercise of the suffrage is not merely a privilege, but a duty. "Either candidate is all right," some may say, but the momentous question is not whether one man or another shall serve the nation as President. It is rather this: What do the conscience and intelligence of the nation decide regarding the policies which have been presented in the platforms of the different parties? In answering this great question one vote is as important as another, and it should appeal to the personal pride as well as the patriotism of the humblest citizen that on November 3d his voice will have as much importance as that of the greatest in the land.

The State of Trade.

THE condition of business during the past month did not differ materially from that of the month preceding. "Wait till election" has been the watchword, and our people have proved their capability to wait in a manner quite at variance with their history and proverbial go-ahead-activeness. As the editor of *Harper's Weekly* aptly puts it: "For months every one who has had a purpose that would wait at all has put it off until after election. Capitalists have put off lend-

ing money; railroads have put off everything they could, including passengers who would not pay fares; debtors have put off paying their bills; creditors have put off suing them; mills have deferred opening; idle people have put off hunting for jobs; people about to move have stayed where they were; people who had homes have, in some cases, got ready to vacate them; babies who could not be deferred have been put on probation until it should transpire whether it was going to be expedient to raise them; cities have deferred selling bonds; citizens have delayed paying taxes; every ultimate thing of serious consequence that could wait has been put on the shelf until after election."

The commercial reports for the week ending October 24th confirm the above. "General trade," says *Bradstreets*, "continues along conservative lines, buyers and sellers preferring to defer business until after election. Traders are more hopeful as to the outlook for business later in the year and next spring." "The most striking feature of industrial returns," says Dun's report, "is the number of contracts conditioned upon the election. These already are enough to make business rather lively for a time, and many others are pending, which will probably be held back until November 1st.

Surely the morning that will end this wait will usher in a day of historic memory. We have, indeed, passed through a time of trial, but the agony is about over, and as our friend Shakespeare philosophically remarked, "All's well that ends well," and so may it be.

Fraudulent Auction Sales.

THE Retail Jewelers' Association of Missouri has been considering a plan for the suppression of fraudulent auction sales. It is true that the jeweler is, in a special manner, the victim of fraudulent auction houses, and these always become quite numerous during the holiday season. That it is possible to suppress them would appear from the success of an organization of dry goods men in New York City entitled "The Association for the Suppression of Fraudulent Auctions." One day last month the New York grand jury, as a result of the work of this Association, brought in indictments against five auctioneers and made a strong presentment, exposing and denouncing the tricks by which the public are deluded and legitimate traders deprived of business. Commenting on the success of the Association, the *Dry Goods Economist* says: "It shows what intelligent effort can accomplish, and goes to prove that the dry goods trade can, if it will organize locally,

well assist the present organization to exterminate the whole business of fraudulent auctions. Some of the parties indicted in New York have been established for many years, and have never been suspected until the Association ferreted out the secret methods through which they operated. The same conditions exist elsewhere and they can be uprooted by the same means. The whole system of fraudulent auctions can be stamped out, and here is the agency for it ready at hand if those dealers who are injured by their existence would take interest enough in their suppression to join this society and pay the moderate fee that is required to prosecute the work."

No doubt by the same methods the Missouri or other retail jewelers' association would be equally successful, and thus might be removed one of the most vexatious institutions against which the legitimate trade have to contend, more especially at the approach of and during the holiday season.

The Disposal of Unsalable Stock.

THE problem of how best to dispose of goods that have proved unsalable in the store is as old as the jewelry trade and still awaits satisfactory solution. In relation to this matter Mr. F. Fullilove, of Owenton, Ky., makes a suggestion, the plausibility of which cannot be questioned, whatever doubt may exist as to its practicability. "I have been considering," writes Mr. Fullilove, "a plan that we jewelers could use to dispose of unsalable stock. I have learned from observation that a large proportion of unsalable goods in one jeweler's stock would be salable in another jeweler's stock. Therefore why can't we exchange goods with one another on memorandum, and, after each one examines the goods of the other, decide on the articles which each one would keep? I think by this plan none of us would have to keep certain articles until our regular customers as well as ourselves are tired of looking at them, and none of us would be out any money except for express charges. I am myself willing to try the experiment with any one who desires an exchange of goods with me on the above named terms." Mr. Fullilove's plan is plausible, but its practicability without organization or a special bureau seems questionable. Jewelers, however, like Mr. Fullilove, who are willing to try the experiment, could communicate with one another through the small advertisement department of THE KEYSTONE.

A Parcels Post Movement.

AN institution known as the "parcels post" has been in force in England and Australia for some years. The parcels post means that parcels such as would contain a pair of shoes, a dozen of silver spoons, a hat, or such like, can be mailed at a special low rate of postage. We have been informed that the big department stores are at the back of a movement to establish a parcels post system in this country. They would thus have for their field of operation not merely their own immediate vicinity, but their county, State or section—and this to the detriment of the scattered retailers. The parcels post was hailed in England as a blessing when first put in operation, but the small dealers soon discovered that it was used to undermine their business by the department stores, and the British department store "ain't a patch" on the grabbing octopus of this country. The *Storekeeper*, a Sydney, N. S. W., trades journal, said in a recent issue, "The parcels post is practically a bonus wrung from the pockets of the coun-

try storekeepers and given to the large retailers in Sydney, who are availing themselves more and more every day of the enormous advantage which this cheap system of carriage gives them." The country storekeeper has quite enough to contend with at present, without such another handicap on his energy as a parcels post would certainly prove.

Keeping Cost Prices a Trade Secret.

SINCE issuing our October number we have had yet other accessions to our list of advertisers who have agreed to use the Keystone Key method of publishing prices in their advertisements in this journal. During the past month we have received the usual quota of letters calling our attention to particular advertisements in which this method of publishing prices was not adopted. We would suggest to the complaining jewelers that they address such communications direct to the advertisers, who would thus understand from the jewelers themselves the views of the trade on the subject. Of course, in the case of articles purchased for the jeweler's own use, such as tools, the publication of net prices is entirely unobjectionable, but the trade have decided objections, as expressed in their letters, to the publication of net prices of all articles—watch material included—purchased to be re-sold.

The following advertisers in this issue state prices as "according to Keystone Key":

Allen & Co., Benj., 141-143 State Street, Chicago.
Atlas Watch Co., 103 State Street, Chicago.
Coddling Bros. & Heilborn, North Attleboro, Mass.
Keystone Watch Case Co., Philadelphia.
Leys, Trout & Co., Prescott Bldg., John St., New York.
Mayer & Co., Geo., 108 South Eighth St., Philadelphia.
Non-Retailing Co., Lancaster, Pa.
Norris, Alister & Co., B. F., 113-115 State St., Chicago.
Pond, A. H., Syracuse, N. Y.
Rosenfeld, Wm. I., 8 Maiden Lane, New York.
Tidd & Co., Columbiana, Ohio.
Trenton Watch Co., Trenton, N. J.
Witsenhausen, L., 37 Maiden Lane, New York.
Young & Co., Otto, 149-153 State Street, Chicago.

If there is still any jeweler who does not know the meaning of the phrase "Prices according to Keystone Key," we will take pleasure in sending him an explanation on request.

Bicycle Prices in 1897.

A SUBSCRIBER asks us whether we have any information as to the probable prices of high-grade bicycles next season. We have no such information, but a recent event of importance makes credible the assertion of the manufacturers that the prices of high-grade wheels will be little, if any, lower than those of '96. At the meeting of the wrought iron pipe manufacturers held in New York recently, an agreement was entered into between the makers of bicycle tubing not to sell to any except regular bicycle makers. Makers of other parts have also given pledges not to sell the parts made. The manufacturers call their competitors "assemblers." By this they mean that the producers of the low-priced wheels assemble the various parts, and, without actually investing any capital, turn out wheels. It was only necessary for a man to equip a small shop somewhere with a drill press, a lathe and some other simple apparatus, which, in the hands of a skilled workman, would be sufficient to perform the work. The tubing would be bought at one point, the sprocket wheels and chains, handle bars, rims, tires, spokes and other parts at different places, and then be joined into a finished wheel.

If this agreement is carried out, high-grade wheels at fancy prices will rule next year. Unless cheap tubing can be secured it is impossible for

the small manufacturers to operate their plants in the manufacture of what is known as the low-grade wheel. The tube makers practically can control the situation, because it requires a large capital to engage in tube making.

Insurance Against Fire.

AT a recent meeting of the Cincinnati Wholesale Jewelers' Association a plan was submitted for the formation of a Jewelers' Mutual Fire Insurance Association. Such an institution as this is much to be desired. It is well known that fire insurance companies discriminate against jewelers in the matter of rates, and quite unreasonably, too, for the risk is not greater than in most other lines of business. That the jewelers could engineer successfully, and with much benefit to the trade at large, a fire insurance association can be inferred from the success of the Jewelers' Safety Fund Society, Jewelers' Security Alliance, Jewelers' Protective Union, Jewelers' League, etc. There would seem to be a promising future for an association organized on the plan outlined at the Cincinnati meeting, which is that members deposit each year two per cent. of the value of their stocks. From the reserve fund thus accumulated salaries and other expenses and losses would be paid. Whatever would remain at the end of the year would be divided among the members in proportion to their assessments.

Preferred Claims.

A PROMINENT commercial journal truthfully says that a most vexatious thing for a creditor to discover is "that an insolvent has given preferential claims upon a portion of his estate. The loss of a large sum through the failure of a customer is always bad enough, but when the loss is increased through the existence of a preferred claim given in favor of some other creditor, the loss is doubly annoying. The wholesaler, under such circumstances, has the mortification of feeling that he has been duped, which adds a sting of insult to the financial loss.

"It is not a fair thing for a trader to give a preferred claim to any certain creditor, especially when it is a secret claim. Of course parties who give such preferences always take an optimistic view of the situation. They feel that everything will come out all right in time, and that they will be able to meet all their obligations. They are just a little hard pressed at the time, and in order to appease a creditor who is pushing them, they give a preferential claim upon their assets, expecting that they will be able to wipe it out in time. Before giving any such preference, the merchant should consider carefully what the result will be if things do not turn out all right. If they would take this view of the case, they would remain firm when asked to make a preference in favor of any one of their creditors, even if the creditor should take proceedings against them. It certainly seems dishonest for a merchant to give one creditor a preference and then go on accepting credit from some other house."

Post Office Business.

ACCORDING to the annual report of the Third Assistant Postmaster-General for the year ending June 30, 1896, the total amount of postal expenditure for the year was \$90,626,296.84. The total receipts were \$82,499,208.40. There was thus a deficiency of \$8,127,088.44. The result is a reduction of \$1,679,956.19 in the annual deficiency.

The After-Election Outlook.

IN a few days the political battle will have been fought, and one or other of the candidates will be President-elect. Either the Republican or Democratic party is, of course, doomed to defeat; but it is not a characteristic of the American people to nurse disappointment, and the election will be closely followed by the burial of the political hatchet and a general concentration of effort in the more congenial field of business. Having arrived, then, at the threshold of what, we hope, will be a period of prosperity, it behooves us to shake off the prejudice begotten of party enthusiasm, to discount the importance of party tenets as affecting our material progress, to view the business situation dispassionately and consider whether, in the light of our past achievements, present conditions are not such as favor a repetition or, at least, an emulation of them, apart altogether from the result of the presidential campaign.

For the first time the money question has been the paramount issue before the voters, and the campaign has been in very truth a "campaign of education." Some six months ago our people were comparatively uninformed on currency matters; to-day no nation on the earth can boast of so much monetary intelligence. The campaign has been prosecuted on both sides with unparalleled vigor and earnestness. Considering the novelty of the issue, the advocates of the dual standard must be credited with having made a noble fight against overwhelming odds, and, should victory perch on their banner, no one will gainsay that they deserve it. If, on the other hand, they meet with honorable defeat, there is no reason why they should despair of their country. While free silver may be a most desirable thing, history does not convince us that it is a *sine qua non* or absolute essential of prosperity.

THE fact that we have passed through four years of severe depression should not blind us to the historic truth that the twenty years previous constituted for us the most prosperous period which any nation has ever enjoyed in all history, from the beginning of time down to the present. Between 1870 and 1890 this nation more than doubled its entire savings and its distributed wealth. In 1870 our total valuation was \$30,000,000,000; in 1890 it was \$65,000,000,000. During those years the increase in the wealth and savings of Great Britain and France and Germany, with 125,000,000 of population, was \$30,000,000,000, and our increase, with only 65,000,000 of people, was \$35,000,000,000—more than that of all those nations put together. Mr. Mulhall, the great English statistician, the highest authority on this subject now living, calculates that the earnings of the great empire of Great Britain in 1890 were \$6,400,000,000, and that the earnings of the United States in that same year was \$12,000,000,000, or double those of Great Britain. In 1890 there was paid for labor in the United States the great sum of \$7,000,000,000. In other words, the earnings of labor in the United States in that year were greater than all the earnings of labor and capital put together in Great Britain.

Between 1870 and 1890 the railroad mileage increased from 65,000 miles to 175,000 miles, and our railroad tonnage in 1890, with only 65,000,000 people, was equal to that of all Europe with 350,000,000 of people. In the same year, with our 65,000,000 of people we were manufacturing in the United States one-third of all that was being manufactured in the entire world with 1,500,000,000 people, and practically, as we had

little export, we were not only making it, but we were using it and consuming it. In 1870, the total capital invested in manufactures in the United States was \$2,118,208,000; by 1880 this had increased to \$2,790,272,000; between 1880 and 1890 the increase was phenomenal, and the census of 1890 showed a total capital of \$6,524,475,000; or, in other words, the increase of capital invested in manufacturing between 1880 and 1890 was \$1,000,000,000 more than the total manufacturing capital of the country in 1880. The number of hands employed in factories increased from 2,732,000 in 1880, with aggregate wages amounting to \$947,953,000, to 4,711,832 in 1890, with aggregate wages of \$2,282,823,000. Keeping pace with manufacturing growth, the mining interests of the country turned out \$656,000,000 worth of products in 1890, against \$369,000,000 ten years before. In the same ten years the deposits in savings banks rose from \$819,000,000 to \$1,500,000,000.

THE political battle over, we will find conditions most encouraging. First, and most important of all, the prices of farm products are advancing. The advance in wheat was so rapid as to be almost sensational. Two weeks ago December wheat reached eighty-six cents in New York, a rise of twenty-two cents in a month; and though a reaction from this figure was to be expected, and came, yet a permanent and material increase on the prices of a month ago seems assured. It has been contended that the rise was entirely due to politico-speculative manipulation for effect on election day, but facts do not support this contention. An authority not interested in American politics thus states the foreign situation; "The crop in India was almost a total failure. In Argentine and France the output was unusually small. There was a medium crop in Germany, but it was spoiled by rains. The same conditions prevailed in the north of England. The Russian crop this year is short 100,000,000 bushels." It is certainly not for effect that large consignments of American wheat have been made to India and Australia, two new and promising markets, nor was it to influence American politics that the price of flour in England advanced nearly ninety cents per sack on October 19th, the greatest advance in twenty years. Under these conditions the law of supply and demand explains the rise in price, though we concede that speculation may have conducted, to some extent, to the rapidity and extent of the advance. As a matter of fact, European wheat prices keep pace with American prices, and foreign buyers were still willing to contract for wheat for export at the higher cost.

Anent the advance in the price of wheat, *Bradstreets* reminds us of an interesting fact. In 1879-80, just prior to the great revival in commerce and manufactures of 1881-83, the stimulus to trade was applied in almost precisely the same manner, by an unexpectedly heavy demand for our wheat from all wheat-importing countries, due to short crops in wheat-exporting countries other than the United States. The claim is made, based on government and other reports, that our wheat crop is short this year. Be that as it may, it is not so short but we shall have an average surplus available for export, and, if prices warrant it, probably a little more than the average shipped abroad in recent years. Current wheat estimates place the yield in the United States in 1896 at 437,000,000 bushels, and there are excellent reasons for believing the real total is more likely to equal 470,000,000 bushels than to fall below it. This, with the sur-

plus carried over on July 1st last, will furnish sufficient to enable us to profit materially from what appears likely to be a period of extra dependence by foreign countries on wheat supplies in the United States.

The advance in price has not been confined to wheat alone. A table recently compiled by *Bradstreets* showed that the prices of thirty-one staples and products were higher on October 1st this year than on October 1, 1895, and the most important of these have continued to advance. Among the latter we may mention corn, oats, rye, potatoes, butter, eggs, cheese, beans, pork, lard, tobacco. The advance on some of these is small, yet, in the aggregate, it means on any one of them millions for the country. For instance, it is calculated that the five cents advance in the price of corn means an increase in value of the total quantity harvested of about \$100,000,000.

ANOTHER encouraging feature of the industrial situation is the large volume of our exports and the excess of exports over imports. This excess has been the chief factor in causing the rapid inflow of gold into this country, the total quantity of this metal imported since the movement began aggregating \$70,000,000. Only about one-third of this has reached the Treasury, leaving abundance for investment when the political uncertainty is over. In connection with our export trade it is most gratifying to note the large increase in the exports of American manufactures of nearly all descriptions. At the rate of increase for the first three months of the fiscal year 1896-97 the total exports of manufactures for the year will amount in value to \$270,000,000. With the strong impulse that will be given to this trade after election, the probability is that the manufactured exports for the current fiscal year will greatly exceed the above figures; but even this estimate would be \$40,000,000 in excess of the exports of American manufactures for the fiscal year 1895-96, which greatly exceeded these exports in any previous year. Such a promised increase in manufactured products means work in abundance for our artisans.

CAN the people of the United States do better than to unitedly set to work after election day, and so take advantage of the favoring conditions outlined above as to make the next twenty years a duplicate of the past, forgetting the spirit of partisanship, and only remembering that we are one nation and equally interested in the welfare of our common country?

Decimal Division of Time.

A MEMBER of the French chamber of deputies has drafted a bill, providing for a decimal system of reckoning the time. It is proposed to divide the day into ten hours of one hundred minutes each, and each minute to be divided into one hundred seconds. The French people are said to have accepted the idea of a decimal day and hour with true Gallic enthusiasm, and a Besancon clockmaker is said to have begun the manufacture of clocks and watches showing ten hours to the day, one hundred minutes to the hour and one hundred seconds to the minute. There are so many difficulties in the way of adopting such a system, however, that years would elapse before its use could become general, though it would undoubtedly simplify time reckonings. The French, however, are partial to the decimal system of measurement and also to changes.

If — is Elected.

IF — is elected (or if he isn't), it will be just the right time to put into operation the long-deferred improvement of your front, lowering the window so that passers-by may look at your stock at such an angle of incidence as will produce the most pleasing effect upon the eye. Many windows, especially in the smaller towns, have their floors at too high an elevation from the plane of the sidewalk; and the consequence is that the eye does not view the display to the best advantage.

If — is elected (or if the other man wins), it will be a good idea to disentomb the old patterns of silverware that have been interred in your back wall-case for these past five years, carefully remove the mould from the ancients, and arrange them on a table marked "Bargain Counter," and let your startled fellow-citizens know that "no reasonable offer will be refused." It may go hard to take half the cost for them, but fresh silver in the pocket is better than stale silver in the wall-case, when new Christmas goods are waiting your considerate eye.

If — is elected (or if he is everlastingly beaten), the time will have arrived when that supercilious clerk of yours should make way for another who is better fitted to make friends and secure customers. The supercilious fellow may be more competent to fill the presidential chair than either McKinley or Bryan (as he verily believes in his inmost heart), but he doesn't size up to the requirements in a jewelry store salesman.

If — is elected (or if things go the other way), seize the fruitful opportunity to improve your advertising. At present you are only paying a newspaper for your personal satisfaction in seeing your name in print; suppose you fill the space with some utterances that will *sell goods*. If you don't know how, pay somebody that does. But the chances are sixteen to one that you *do* know, or can learn; you simply have never given this important matter consideration before. You have devoted too much attention to cleaning clocks and entertaining loafers; hire a watchmaker, let the loafers be entertained by the goods in the showcase, and do you dig out the sediment that has settled into the gray matter of your brain, so that you can write and arrange an advertisement which will justify your employment of the watchmaker and the removal of the loafer to the rival shop across the street.

If — is elected (or if the people won't have it that way), *get down to business*. Stop whining about hard times and hard luck. Bury your mulligrubs with the defeated candidate. Don't wear "a green and yellow melancholy" on your lineaments. Look up, and not down. Whatever comes to pass politically, *you* are still a candidate for public favor; make your election sure. The whole United States isn't going to smash, even if your favorite alderman is defeated. Tomorrow the sun will rise, though parties fall; the crops will grow next spring and summer, whatever betide the politicians in the withering blasts of November Third; men will need watches and women will need adorning, and things will happily break, and dirt will judiciously settle itself into pivot-holes, and money will be found to pay the jeweler, though all the theorists be confused. "Though Pan be dead, there shall be cakes and ale." The future is big with promise, if — is elected—or if he isn't.

Speculation in Business.

BY "speculation," in this discussion, we shall not refer to that vicious form known as stock speculation, or any of the varieties of gambling which involve buying and selling of stocks, grain, pork, and other values "on a margin," or any kind of enterprise which occasionally tempts men to venture into risks outside of their own legitimate business.

What do we understand, then, by speculation within the field of one's own business? Let us first be clear upon the meaning of the word.

Speculation is the investing of money at a risk of loss on the chance of unusual gain; specifically, buying and selling, not in the ordinary course of commerce for the marketing of commodities, but to hold in the expectation of selling at a profit upon a change in values or market rates. Adam Smith, in his "Wealth of Nations," declares that the establishment of any new manufacture, or of any new branch of commerce, or of any new practice in agriculture, is speculation. In a certain sense, all business is speculation, as it involves a risk of loss on the chance of gain; but we may understand the term, for our purpose herein, to mean the taking of *unusual* risk on the possibility of unusual gain.

The merchant who buys an excessive stock, or beyond the normal needs of his trade, in his belief that *abnormal* conditions will present themselves whereby he can turn this over-large stock at an exceptional profit, is a speculator. He may speculate on scarcity of goods, or on rise in prices, or on both conditions together. He may make or lose on either condition, or on both.

"Legitimate" business is the investing of money in an enterprise, with the details of which one is presumably familiar, to an extent of investment justified by the reasonable expectations of sales in the course of ordinary business. It is not speculation if, say, a new manufacturing industry is about starting up in the town, employing a large number of people in remunerative work, when the merchant buys *more* than an ordinary stock; for he has reasonable expectation, *based on actual knowledge* of the increased opportunities for sales, that this unusually large stock can be as readily turned as the smaller stocks of previous seasons. He is proceeding entirely within the lines of legitimate enterprise. But if he buys an excessive stock on (irresponsible) rumor of a prospective advance in prices, or on his own conviction (not supported by convincing evidence from those in position to accurately forecast the future) that a pending election will be decided for or against his party, or on any such problematical issue, he is a speculator, pure and simple. He transcends the limit of legitimate operations in the trade field.

It is a form of speculation when the merchant buys beyond his normal needs in the expectation that he can create an abnormal or unusual demand by lavish advertising. This is the least objectionable form of speculation, if the merchant is convinced by *practical results* that he has unusual skill in advertising; but if he venture the unusual purchase *before* he has manifested his advertising ability, he speculates without justification.

Undoubtedly, merchants have made large profits by speculations of all these sorts, within the lines of their own business; and the considerable number who have thus succeeded might seem to justify similar ventures on the part of *all* merchants. But history only records the successes—the numberless names of those who have ventured and failed are blotted from the record. It requires a very broad comprehension of affairs to equip a

merchant for successful speculation; an intuitive sense to forecast a rise or fall in prices; a keen wit to anticipate a sudden change in the taste of the people; a tireless and painstaking study to solve the shifting relations of supply and demand. A very small number of the total of merchants possess the qualities of mind which are furnished to the successful merchant-speculators; and the mistaken ones realize that they overestimated their own capacities after it is too late to recover themselves.

The evil of speculation is not alone, and not so much, in the chance of serious, direct loss, as in the breeding of a discontent at the slow gains of legitimate business; in the demoralization of correct theories; in the subversion of all the established rules, the result of the experiences of centuries. Once a man enters the field of speculation, with its promises of sudden and great gains, it is hard for him to come back to the methodical processes of ordinary business, the monotony of routine, the slow gathering of profits and the little increment. There are but two steps—dissatisfaction to speculation, speculation to demoralization; unless, indeed, there is exceptional capacity in the one who takes the first step.

Unless you are one of the exceptionally fit, keep to the middle of the road in your business operations. Be satisfied with the slower but safer returns which result from normal trade. Don't "plunge." The abnormal is a path strewn with pitfalls for those whose steps are not lighted by the lamp of experience, or whose eyes do not gleam with the fire of genius. You are probably not naturally a great merchant; then the captivating sweets of speculation are not for you. You may learn much by study and observation; you may eventually be rich and influential; but you will win by going slowly and safely. Keep in the middle of the road.

IF one may be guided to a conclusion by the prices at which bicycles are now being advertised by the department stores in the large cities, the song-writer who wrote of

"A bicycle, built for two,"

must have intended it to be understood that he meant

"A bicycle, built for two (dollars)."

The Gift with a String to It.

THE universal longing of humanity seems to be to get "something for nothing." The average man or woman will attend a very poor entertainment if it is free, and will submit to being bored if there is no charge for it; will be willingly jammed in the crowd around a fountain of poor free soda-water, if there is a remote prospect that he (or she) may eventually hold the glass; will endure the fatigue of standing on a long journey, if the excursion manager makes no charge for the tickets. The resulting gratitude depends upon the skill with which the donor of the gift conceals the string which is attached to it.

It is a melancholy fact that the gift-giving of a business man to the public is rarely without this string. It says to the recipients, "I'll tickle you, if you will tickle me." It says, "I'll be free in my giving to-day, if you'll be free in your buying to-morrow." The expert philanthropist is he who most skilfully hides the real intent of his gift—woe betide the bungler who exacts the return too plainly!

The merchant who gave to the business world the first idea of the bargain-counter was a genius

(Continued on page 842.)

OUR ENTIRE STOCK

841

is offered at a

Reduction of 20 %

from

Regular Prices

on account of a change in our business, January 1st.

Importation Samples

for the

Spring of 1897

are now arriving and being placed on view.

LE BOUTILLIER & Co.,

860 BROADWAY,

Northeast Corner of Seventeenth Street,

NEW YORK.

of trade. When he advertised "Cut glass caraffes, for this day only, \$1.29, regular price \$4.50," he uttered an argument to the feminine sense of the duty of reciprocal favor that was unanswerable, even if the marketing allowance had to be impinged upon and the grocery bill had to hold over to the next week; for the string to the gift was not in evidence.

If you determine to give "something for nothing" to the public, be very sure that the "nothing" is not visible to the eye of the recipient; be careful that the string to the "something" is not the size of a ship's cable, or it will be seen even by the near-sighted. If the string is seen, the gift will defeat its own purpose. There is no selfishness in true philanthropy; and the business man who takes credit for generosity is scorned by his intended beneficiaries when the selfish purpose of his giving is made manifest. Hide the string to your gift, or it may hang you!

What might be tolerated in gift-giving to the public, in the way of business, is simply intolerable in the gift of a friend to a friend in their private relations; for the cases are fundamentally different. The public has no claim of affection, or relationship, or sympathy, upon the merchant; and there is no conceivable basis for an impulse to give "something for nothing" to this impersonal public, outside of the policy of business which determines ways and means of increasing trade. And the public *knows* this fact, and hence can tolerate, occasionally, the presence of the string to the gift. It is "just business"—not very good business, to be sure, if the string be dangled before its open eyes, but after all it is "a way of advertising," the forgiving public says, and the gift "goes."

But the personal gift to a friend, in the private relations between giver and recipient, is another matter. Such a gift should have no ulterior purpose in the giving. It must be given without calculation, or it is sordid; it must be given without thought of return, or it is selfish; it must be given without subsequent reminder of the giving, or the gift is a hateful burden to the recipient. Whether it is a thing that is given or a favor that is done, the duty of the giver *not to press the obligation* is quite as definite as the duty of the favored to be properly grateful. In the whole round of bitter experiences which come to all of us there is probably none more keenly torturing to a sensitive spirit than to be reminded of the grudging favor, to feel that the donor of a gift is looking for constant appreciation of his generosity, and to realize that one is poorer by the very gift that they have gained, since it entails a perpetual tax of "appreciation" upon the recipient.

The personal gift or favor must have no string to it, or it belies the very spirit of generosity. It is a sham, a counterfeit, a fraud. As Hamlet said to the players, "Pray you, avoid it."

A Suggestion for an Ante-Election Window.

FOR the few days intervening between the receipt of this number of THE KEYSTONE and election day, a window dressed as herein described will likely attract the eye of every passer-by, since every one's mind is now running in a political groove and every one's sympathies can consequently find food in a display arranged as follows:

Spread a large American flag on the floor of the window. Construct two platforms, of the same size, to stand side by side in the window on this flag; with a narrow space between them.

Cover one of these platforms with plain gilt paper on every surface, to symbolize the Republican platform; cover the other platform similarly with silvered paper, but showing three divisions, to symbolize the present unified platform of the Democratic, Populist and Silver parties. In the space between these two platforms, place as many *little* platforms as there are parties represented in the present presidential contest. Drape the platform representing the National party with red, white and blue bunting; that representing the Prohibition party with fragments of broken glass, held on by glue, to represent ice; that representing the Socialist party with no draping at all—just the plain, undressed wood; and so appropriately with the others.

On the Republican platform place gold and filled watch cases, gold and rolled-plate jewelry, and other articles of the yellow metal. On the Democratic-Populist-Silver platform place silver cases, spoons, silver trinkets and novelties; on the Socialist platform, a carver; on the Prohibition platform, a cut-glass caraffe or tumbler; and other symbolic articles on the remaining platforms.

In the center of the Republican platform place a cabinet-size portrait of Major McKinley, in a gilt frame; and the same-sized portrait of Mr. Bryan, in a silver frame, in the center of the Democratic platform. (The smaller platforms will presumably not be large enough to support photographs of their respective candidates; but the photographs will add much to the interest of the display, if your window is sufficiently large to show them without dwarfing the Republican and Democratic platforms. The special interest will, of course, attach to them.)

In addition to the large American flag on the floor of the window, drape others on the two sides and the back of the window.

Against the back of the window place a large piece of cardboard, on which have conspicuously inscribed,

WHICH?

(See this window on November 4th.)

If, as is likely, your window will have gained the approval of all sight-seers for its impartial illustration of the question of the day, you can profitably follow up the display by thus illustrating the sequence of the election, whether you feel a personal regret for that result, or a corresponding elation:

On the morning after the election, continue the flag arrangement as on the previous day; but change the other features of the display as follows:

In case the Republican party wins, move the "gold" platform, with all its gold furnishings, to the center of the window; put all the silver articles in a haphazard and confused mass in a corner of the window, together with the *overturned* platforms of all the defeated parties, and the photographs of the defeated candidates *face downwards*; and against this mixed and rejected lot put a new broom, in such a position as to indicate a sweeping-out. If the Democratic party wins, tumble the Republican symbols into the corner before the broom, among the overturned platforms and face-downward photographs, with the same arrangement otherwise as described above.

In order to provide against the resentment of any witnesses *who did not see* the display before election-day, and who therefore would not understand that the subsequent display was in sequence with the former one, put a large card at the back of the window, inscribed:

If the election had gone the other way, we would have tumbled the *other* platform.

Living up to One's Reputation.

DURING the "craze" of æstheticism, some years ago, one of the clever satirists represented the duty of "living up to one's blue china." He of course referred to the obligation, upon those artistically inclined, of shaping their lives harmoniously with the spirit of their cult, and of fitting comfortably into their æsthetic environment and the realm of rhapsodical fancies—in the same sense as Lord Chesterfield instructed his son that "a gentleman should *look* his station."

The blue china of the æsthete undoubtedly exercised a terrific tyranny over the *half-baked* disciples of æstheticism—those who preached what they had not the comprehension to practice understandingly. There was many a heartburning and doubt in that long-haired lot!

The same sort of tyranny is exercised by an accidental reputation. It may be what it will—a reputation for cleverness, for wit, for breadth of view, for skill at repairing, for advertising, for sincerity, for foresight, or whatnot. It puts upon its victim the necessity for constantly keeping up to the water-mark of one high tide of effort; it requires that he never fall below the plane of the successful endeavor; it demands that it be "lived up to."

There is no doubt that a reputation for doing successful things, or saying right things, or acting becomingly in emergencies, has saved many a man *from himself*. A sense of pride calls upon him to sustain the reputation gained by a fortuitous circumstance; and though his soul may be scrumpy, and his instincts base and mean, he will be held to heroic acts and high endeavors in spite of his natural inclinations, in order that he may justify the reputation which he has unfairly gained through capricious allotment of fortune. There is no measuring the good which has been wrought in the world through the tyranny of these reputations which have held men true through pride of the opinion of their fellow-men. It almost argues a virtue in pride itself.

A man makes a reputation, and in turn *is made* by that reputation. He creates, and then is himself created by his creature. He makes, that he may be made. There is food for thought, to the philosopher of morals, as to whether a good reputation is not one of the very strongest moral forces in the world, in the results upon the individual *himself*—not necessarily (or indeed likely) a *spiritual* force (for the man may be the veriest hypocrite), but one that makes for personal morality, for good conduct, and for effort in continuance of the established order of things.

A VERY old man was observed planting some fruit trees. When remonstrated with, on the ground that he would never live to enjoy the fruit, he replied, "No, but my grandchildren will; and I want to put them under obligations to *their* grandchildren."

The merchant who has stuck steadily to a practice of continuous advertising through the long period of depressed trade has been planting a fruit tree. He may not be able to see the tree grow; but it has been growing, nevertheless—gaining strength to resist the tempest, gathering nourishment that will afterwhile appear in blossom and fruitage. Unlike the old man, he will not have to depend upon his posterity for the gathering of the fruit; for as soon as the sunshine of prosperity again floods the Valley of Promise, the vigorous advertising tree will burst into wholesome fruitage, and the merchant will joy in his own planting.

TWENTIETH CENTURY PATTERN

STERLING
SILVER
TOILET
SET

A DESIGN OF
GREAT BEAUTY
AND FINE
WORKMANSHIP.

A
VERY
POPULAR
DESIGN

IS OUR
BEAD EDGE
TOILET
SET

SEE OUR CHAINS WITH OUR
NEW 18 K. COLOR,
ALSO OUR NEW DESIGNS OF
JEWELRY AND SILVER NOVELTIES



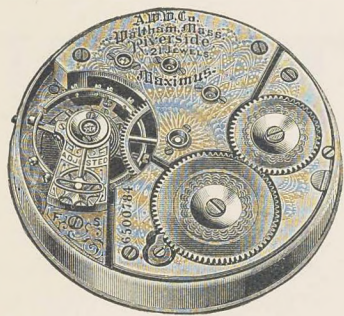
KENT & STANLEY CO., LTD.

PROVIDENCE, R. I.

New Goods and Inventions.

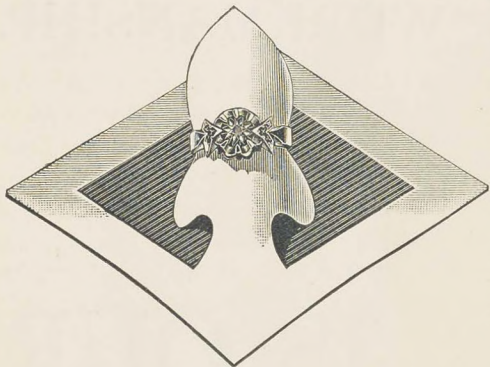
[The illustration and description of new goods and inventions as hereunder is a permanent feature of THE KEYSTONE, our twofold object being to keep the merchant jeweler thoroughly posted on the very latest and most salable goods, and the practical jeweler equally well posted on the newest inventions and improvements in tools and appliances used at the bench. For the benefit of the optician, we also illustrate and describe new optical goods and instruments in this department.]

A New Watch Movement.



A new high-grade watch movement, aptly named the "Riverside Maximus," which is one of the greatest achievements in American watch manufacture, has been placed on the market by the American Waltham Watch Co. In the quality of its parts, constructive excellence, artistic finish and possibilities of service, this movement must be regarded as a triumph of mechanical skill. Its description in detail is as follows: Twenty-one diamond and ruby jewels; two pairs diamond caps; both balance pivots running on diamonds; raised gold settings; gold train; jewel pin set without shellac; double roller escapement; exposed pallets; patent micrometer regulator; compensation balance, accurately adjusted to temperature, isochronism and position, and carefully timed; patent Breguet hairspring, hardened and tempered in form; fine glass hand-painted dial of most modern and artistic design. The Riverside Maximus is made in 16, 12, 6 and 0 sizes. The two latter sizes are nineteen-jeweled.

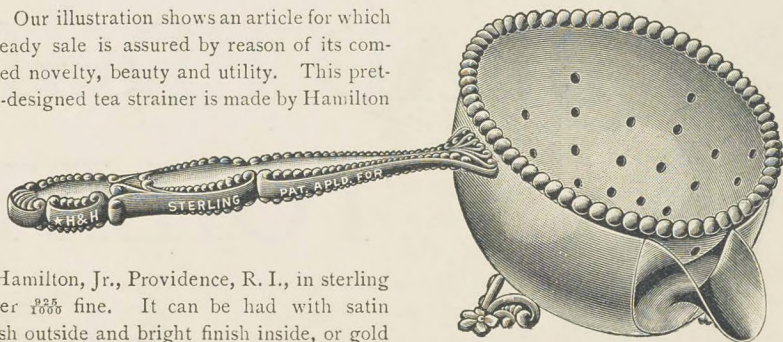
Display Card for Single Rings.



Now that the ring-selling season is approaching, the trade will be interested in our illustration, which shows the Boyden ring tray, a prettily designed card for displaying single rings. The cards can be had with white, black or colored background, as desired. They can be procured from any of the jobbing houses, and at a price that invites their general use. They are pretty to look upon, and admirably adapted for display purposes.

A Pretty Tea Strainer.

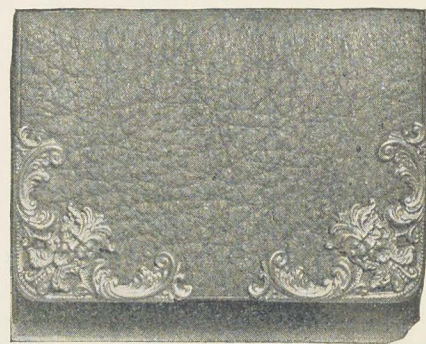
Our illustration shows an article for which a ready sale is assured by reason of its combined novelty, beauty and utility. This prettily-designed tea strainer is made by Hamilton



& Hamilton, Jr., Providence, R. I., in sterling silver $\frac{925}{1000}$ fine. It can be had with satin finish outside and bright finish inside, or gold lined. Among exhibits of holiday goods in sterling silver there are few articles that should prove so attractive or salable as this.

Handsome Fancy Leather Novelties.

There are no more attractive holiday novelties than the almost endless variety of articles now made in fancy leather, and a good idea of both the variety and beauty of these can be had from illustrated lists recently mailed to the trade by C. F. Rump & Sons, Fifth and Cherry Streets, Philadelphia. There are calendars, photo. frames, memorandum books, chatelaine bags, pocket-books, cigar cases, dressing cases, etc., either in leather alone or with sterling or oxidized silver mountings. To become acquainted with these goods is a business duty of the season.



A Pretty and Salable Novelty.

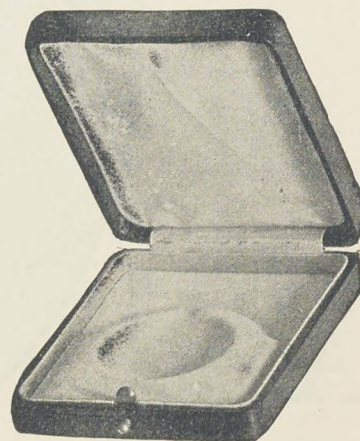
Among the holiday articles that combine novelty with utility and prettiness are emeries for ladies' use, such as shown in the illustration. One of these little



articles is said to be necessary to the complete equipment of my lady's work-basket. Codding Bros. & Heilborn, North Attleboro, Mass., have placed on the market an unusually pretty line of these emeries. They are in the shape of strawberries, rosebuds, etc., and are made with or without handles. The handles, when used, are very ornamental. Codding Bros. & Heilborn have a great variety of other novelties specially adapted to holiday trade.

A Handsome Watch Box.

Our illustration shows a particularly desirable watch box, called the moroccine watch box, made by S. & A. Borgzinner, 82-84 Nassau Street, New York. It is covered with moroccine, lined with velvet, and has a prettily shaped solid block for the watch. Considering its neatness and richness of appearance, the price is surprisingly moderate.



Another New Watch Movement.

Our illustration shows yet another new watch movement which, if low price, beauty of finish, and excellence are the desired combination, should have a good sale. It has solid plates, separate barrel bridge, quick train, cut expansion balance and safety pinion. It has handsome nickel finish, and is at present made in seven-jeweled only. This movement is the latest new product of the Trenton Watch Co., Trenton, N. J., and advance orders indicate a good demand for it. The present season has been unusually prolific in new watch movements in all grades. While the expensive grades have all been neglected, the cheaper ones, as a natural result of the times, have been given most attention. It means business for the jeweler to keep posted on all of them.



Cleveland Letter.

A general review of the business situation shows no improvement over last month. In fact, the jobbers report sales not up to the average of last month. Everybody seems to be waiting the result of the election before placing their holiday orders.

Webb C. Ball recently made an extended trip through the West in the interest of the railroad inspection service. R. E. Burdick is in the East, looking up the latest ideas and novelties of the importers.

C. E. Wilsdorf, formerly located at 966 Payne Avenue, has opened up in the Body building, corner Wilson and Payne Avenues, with new fixtures and enlarged stock. He is now ready to serve his many customers.

A. T. Hubbard is in the East, buying for the coming season.

Burt Ramsay, formerly with J. M. Chandler & Co., Providence, R. I., will soon open a new store on Pearl Street. Mr. Ramsay is well known to the trade as the inventor of the leather-lined swivel.

Walter Deuble, Canton, Ohio, was calling on friends here recently. Orders for future delivery were also left with the wholesalers.

John T. Vansant was recently elected secretary of Troop A, Ohio National Guard.

Chas. F. Pecoy, with Cowell & Hubbard Co., is mourning the loss of his only daughter, who died the 20th inst.

W. H. Kennan and Will Wagner, travelers for L. M. Siglar, Son & Co., have returned from the Northwest to vote.

Brunner Bros., an old established jewelry house in this city, are offering to dispose of their business. The head of the house has been in ill health for some time, and desires to retire.

Jonn M. Martin, Crestline, Ohio, called on the jobbers the middle of October.

H. E. Epenschied, New Philadelphia, Ohio, is closing out his stock at public auction.

W. A. Grotendick, Xenia, Ohio, recently took unto himself a bride. The honeymoon is being spent in the East.

E. H. Holter, Oberlin, Ohio, was a recent trade caller.

A. H. Rodgers, Chagrin Falls, Ohio, was a buyer among the jobbing houses recently.

John Rich, Jr., Painesville, Ohio, was a recent buyer in this city.

The silver cup, which was manufactured by the employees of the Mauser Manufacturing Co., of New York, and presented to Mr. McKinley, was exhibited for several days in the show windows of the Cowell & Hubbard Co. Great crowds were attracted by it, and many compliments showered on the donors.

Geo. E. Burt, Belle Center, Ohio, has opened a new store.

Ed. Nolf, of Nolf Bros., Wadsworth, Ohio, was a recent trade visitor.

Fred. Meier's jewelry store, at 1155 Payne Avenue, was robbed the evening of the 10th. Mr. Meier had gone to the rear of the store, and during his absence some one entered the front door and stole a tray containing seventeen gold rings, valued at \$150. Mr. Meier missed the tray as soon as he returned, and at once notified the police. The robbery was a daring one, as there were many people passing in front of the store at the time the deed was done.

Stopped His Paper.

One of the Chicago lumber trade journals received the following letter the other day from a lumberman in Southern Iowa:

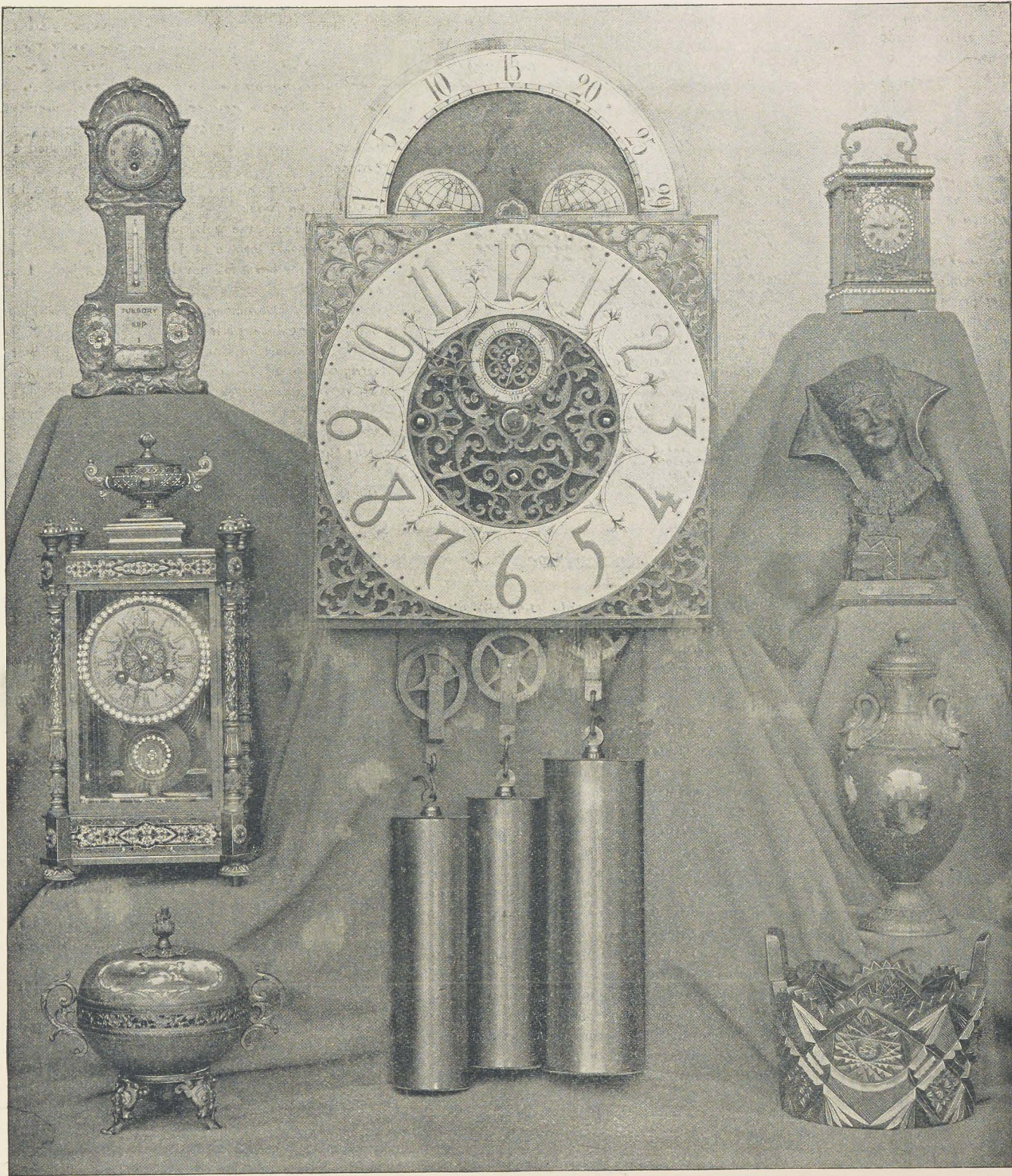
"Mr. Editor: You will please stop sending me your paper upon receipt of this. I never did think very much of it in any particular, and if I followed your market reports I would have been in the poorhouse long ago. I have been a subscriber to your paper for nearly ten years. Three dollars is a good deal to pay for a paper in such hard times as these; still, I guess it's just as good as any of them, and I've been taking it so long I guess I'll try it a while longer. Inclosed please find my check for three dollars."

BAWO & DOTTER

Manufacturers
Importers and
Commission Merchants

26, 28, 30 & 32 Barclay Street

NEW YORK



Porcelain Clocks

in endless variety; fitted
with American or Imported
Movements; time and gong
strike.

©

French Gift and Enamelled Regulators

(with self-adjusting escape-
ments)

©

Paris Goods and Sèvres Vases

©

Traveling Clocks

of every description

©

Finest Imported Bronzes

©

Rich English Art Potteries

©

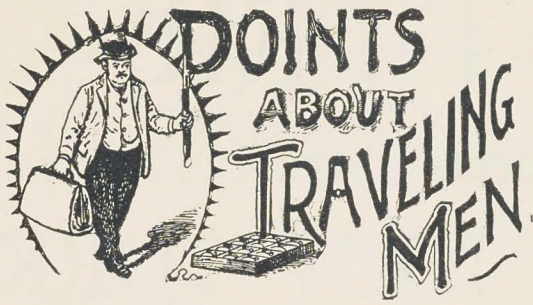
Fine Cut Glassware

English Chiming, Hour and Half Striking Hall and Mantel Clocks

The Largest Collection of Well-Selected FANCY GOODS,
for First-class Jewelers, Under One Roof

CLOCK MATERIALS FOR ENGLISH AND FRENCH
MOVEMENTS

OUR CLOCK CATALOGUE, 1896-1897, ONLY SENT ON APPLICATION



There are times in the life of every commercial traveler when a friendly grasp and a kind word from the dealer are worth more than all else to him. Let the grasp and the word be ever ready.

Under the new German law, which has just passed the Reichstag for the suppression of illegal competition, a traveling salesman, or "drummer," is only allowed to visit the store or house of a customer with his samples when specially invited in writing to do so.

From *The Michigan Tradesman*: "It was on my last trip through western Texas, between Mason and Junction City," remarked Albert C. Antrim, "that I and my driver were compelled to look for some place to pass the night. We drove up to a farmhouse and found the entire family sleeping out in the yard. To my question if we could be accommodated for the night I received 'No' for an answer, and, as I discerned another house some three miles distant, I did not persist to remain, expecting to meet with better luck. As we neared the next farmhouse the same spectacle of seeing the family stretched out on the veranda met my gaze. I hailed the old man and he, too, refused to shelter us. I then asked him if it was customary to sleep out in the yard in that section, and he replied: 'It might not be custom, stranger, but the fact is the bedbugs are so bad out here that we are obliged to.'"

Jack Adler, the well-known Western clock salesman, tells us that he is already doing a nice trade with the Regal Jewelry Company's line of rings. He has been in Illinois, Missouri and Kansas territory the past month. The present month will find him hustling for orders in Iowa, Nebraska and the Northwest.

Geo. E. Tinker, who has for a number of years called on the trade of the Middle and Western States for William B. Durgin, the Concord, N. H., silversmith, recently called on the Chicago trade. Mr. Tinker is one of the pioneers of the sterling silver trade, and is as successful as he is genial and popular.

L. F. Andrews, for a number of years with his father-in-law, Jeweler Ira Smith, of York, Neb., has taken the road for the Shook-Sellers Company, of Omaha, and will cover Nebraska territory.

Geo. L. Brenning, of the Dennison Manufacturing Co., St. Louis branch, starts out the first week of the present month for an extended Southern trip, which will extend as far south as Texas. Mr. Brenning has long been one of the popular men of the profession in the Southwestern territory, and is sure of a welcome wherever he calls.

C. E. Ferguson came in from the Northwest to Chicago headquarters in time to deposit his vote. This done, he will immediately start out on a month's trip among the trade in Illinois. Mr. Ferguson tells us that he found trade looking up in the Northwestern country, and that his business was surprisingly good, considering the condition of things on his last trip through that section.

The traveling representatives of Louis Kaufman & Co., 54 Maiden Lane, New York, have started on their last trip of the season with what they claim to be the most complete and beautiful line of set rings ever shown. Jos. L. Herzog has gone South, Mark Franklin, West, and J. Jacoby, East. Armer & Weinshenk, 207 Sutter Street, San Francisco, represent L. Kaufman & Co. on the Pacific Coast.

Sam. Jones thus speaks on the drummer: "There is no more characteristic character in history, or science, or art than the drummer. He is multitudinous, many sided and ubiquitous. Wherever commerce is known and traffic is carried on, the drummer goes. Having been on the road almost constantly for fifteen years, my contact with this class of men has been frequent; and, to be candid, the more I have seen of the drummer the more I can see that he has a big heart and an intelligent head. The drummer of to-day, compared with the drummer of fifteen or twenty years ago, makes one think favorably of the doctrine of evolution, at least in some of its phases. There is an immense difference, morally at least, between the drummer of to-day and the drummer of twenty years ago. The profane, whisky-drinking, beer-soaking, gambling drummer is an exception.

The rule is that the drummer is a bright, upright, intelligent, moral man. Some of the best men I know in America are traveling salesmen. The characteristic drummer, with his fund of jokes, with his good humor, with his tact and talent, is a very interesting man. Take him at the hotels, on the railroad trains, on the streets, and even when he is pushing his traffic, everywhere you find illustrations of pluck and vim and enterprise and get-up-and-get."

Strictly Business.

Hustling Commercial Traveler—Miss Carrie, I've been around a good deal, and I'm a good judge of girls. I'm ready to marry and settle down, and I've picked you out for a wife. Does it go?

Handsome Young Milliner—It doesn't go, Mr. Swimmalick.

Commercial Traveler—All right, Miss Carrie. What can I show you in ribbons, to-day? I've got the golwhop-pinest lot you ever saw.

The Traveling Man.

Nobody knows what traveling men eat,
Nobody knows where traveling men sleep,
Nobody knows the dangers they meet,
Or how they must hustle positions to keep.

He works thro' the day and travels at night,
And his "boss" thinks, of course, that perfectly right.
He rides on the "Limited"—most always she's late—
But oftener takes the slow local freight.

He flits thro' the land, welcomed by all,
Occasionally using unlimited gall,
While his firm sit at home, counting away
The cost of his trip and average per day.

He's the soul of good cheer, and knows how to tell
The latest jokes out—and does it quite well.
He avoids all hotels and towns that are "bum,"
But where he does go, you'll always find fun.

He doesn't play cards, but will gladly help out
If you need a fourth hand, should he happen about.
But the world moves along, and the traveling man, too,
Making sunshine for some and wealth for a few.

Then honor is calling, wish him long life,
Continued success and a good little wife.
Let's help him along and do what we can
For the friend of the trade—the traveling man.

—Max Robinson, Savannah, Ga.

St. Louis Letter.

The bright autumnal days, bountiful crops and advancing prices of grain conspire to make an improvement in trade and in the general good feeling of our jobbers and retailers, notwithstanding the horrible "after election" nightmare. So much action has been postponed until "after election"; the giving of orders, the paying of debts, the selection of holiday goods, social parties, and we hear that even marriage engagements have been deferred until "after election," thus cutting short the usual crop of fall weddings. As we approach November 3d, which some one has labelled "the dawn of prosperity," there is undoubtedly a better tone in the business world. Trade is not anywhere near normal yet, but the extreme depression of the past three months seems to be over, and the "dawn of prosperity" is already in sight. This is what trade has been waiting for the past few weeks, and we are now looking for more prosperous times to quickly follow right after the election.

Some of our jobbers report a lively demand for fancy goods and clocks this season.

The M. Eisenstadt Company say that business is good. The past month has been a good one with them, and they entertain high hopes that November will prove the banner month of the year so far with them.

Geo. H. Kettmann & Co., for a number of years doing business as material jobbers at Louisville, Ky., removed to this city in July. They are located at 104 North Sixth Street.

Morris Bauman, of the L. Bauman Jewelry Company, is off this month for an extended business trip through the far West, extending through to the Pacific slope.

The Retail Jewelers' Association of Missouri has issued a handsome membership card and other literature, which will be circulated with a view to increasing the membership. The Association may determine to send an officer throughout the State occasionally, to further the work.

Goodman King, of the Mermod & Jaccard Company, said their business showed some improvement over September. Fair week brought them a good trade, and the crowds that filled their store the "big" days were most refreshing to look upon. Their handsome and unique window displays all through Fair week, proved great attractions for the out-of-town visitor. Their diamond window was rich with elegance and highly artistic arrangement, and it drew a crowd from morning until night.

A. L. Steinmeyer, manager for the E. Jaccard Jewelry Company, and Louis P. Aloe, of the A. S. Aloe Optical Company, served as directors of the Horse Show held the past month.

The Haberman Jewelry Company was incorporated recently with a capital stock of \$5000, fully paid in. Henry Cohn holds forty shares; J. Weinberg, five shares; Philip Haberman, four shares; and W. Haberman, one share. The company will establish a store at 810 Olive Street.

M. Le Roy Levy is the new city salesman for the M. Strauss Jewelry Company.

F. J. Bross, Julius Newman and Sidney Bauman, of the traveling force of the L. Bauman Jewelry Co., were in during fair week, looking after their visiting customers.

W. B. Kerns, of Bunceton, Mo., was a buyer here during fair week.

Among the many jewelers who bought goods in St. Louis during fair week was Anderson Blanton, of Paris, Mo.

J. L. Duke, of Fayetteville, Ark., well and favorably known in this market, was in town fair week, taking in the sights and making a selection of the latest fall novelties.

A. R. Colburn, of Argenta, Ark., was buying goods in St. Louis recently. Mr. Colburn has just finished a new residence.

Earl Underwood, of Arkansas City, Kan., was a buyer here during fair week.

George Porth, the well known Missouri jeweler, for a number of years located at Jefferson City, was making a selection of the latest fall novelties from our jobbers during fair week.

J. H. D. Dettmering, of Steeleville, Ill., was a trade visitor in town during fair week.

C. B. Pittman, of Ennis, Tex., was a liberal buyer here during fair week. He is resuming business at his old stand with an entire new stock.

Pearl Richards, son of Jeweler D. P. Richards, of Columbia, Mo., was doing the St. Louis fair for several days during the festivities week.

S. G. Parker, of Sikeston, Mo., accompanied by Mrs. Parker, was in town during fair week.

Fred. Schaeffer, of Carlinville, Ill., bought goods here during fair week.

Charles Miller, of California, Mo., was a visitor here during fair week.

W. C. Stahlberg, of Chester, Ill., was in town during our week of fall festivities, and bought goods from our jobbers.

L. J. Baker, of Muscogee, I. T., was a liberal buyer in this market during fair week.

Bradburn & Hill are a new jewelry firm at Sturgis, Ky. Mr. Hill was in town recently and bought their opening stock here.

Max Bauman, of the J. G. Willeke Jewelry Company, Springfield, Mo., was among the throng of fair visitors in town last month.

C. W. Collie, of Morganfield, Ky., bought goods in this market recently.

A. E. Colburn, of North Little Rock, Ark., was in town fair week, doing our fall festivities, and making a selection of the latest novelties.

A. C. Haley, formerly located at Harrison, Ark., but now of Cassville, Mo., was among the many jewelers who visited here fair week.

A. Zuckschwerdt, of Tipton, Mo., bought goods here recently.

J. E. Ketchum, of Forest City, Ark., was a buyer in St. Louis during fair week.

T. E. Gouterman, of Edwardsville, Ill., was among the many out-of-town jewelers who bought goods here fair week.

C. L. Glines, of Harrison, Ark., was seen by THE KEYSTONE representative in the office of one of our jobbers during his visit here fair week. Mr. Glines remarked that trade had been quiet in his section of late, but that they were anticipating a good holiday trade.

"We think *The Keystone* is the foundation for all jewelers to build on."—G. H. Tromly, jeweler, Fairfield, Illinois.

Don't Scold Your Competitor.

Never permit yourself, in advertising, to give way to the very natural inclination to compare your goods to those of your competitors. You may have a better stock, and your store and your business methods may be better, but don't talk it in your ads. It looks as if you were jealous, or were losing ground, or something of that sort. The best way is to go ahead and tell all about your goods just as if you weren't aware of the fact that there was a competing store on earth.

—Brains.

ALEXANDER H. REVELL & CO.⁸⁴⁷



C. D. PEACOCK'S STORE, CHICAGO. THE FINEST JEWELRY STORE IN AMERICA.

431, 433, 435 & 437
Fifth Avenue
CHICAGO

Manufacturers of
Strictly High Grade

JEWELRY FIXTURES

The accompanying cut gives a view of the rear of the Peacock store, showing one of our new style Upright SILVERWARE Cases, specially designed and manufactured by us.

By permission, we refer prospective purchasers to C. D. Peacock for information regarding our work.

Benj. Allen & Co., 141 & 143 State St.,
CHICAGO, Illinois.



No. 107 Open-Face Elgin Movement.

16 Size, Gilded, 15 Jeweled, Adjusted, Patent
Regulator, Breguet Hairspring, Compensated
Balance, Open Face, Pendant Set.
Price of Movement, **\$13.00**
Reduced from \$19.00.

According to Keystone Key.

The Lowest Price
16-Size Adjusted Movement
in the Market.

We have O. F. Cases to fit,
in Gold, Gold Filled,
Silver and Nickel,
all Grades and Prices.

The "B. A. & Co." Catalogue of Watches, Jewelry, Clocks, Etc., for 1897, will be ready for distribution **November 1st**. Will be larger and more complete than any Catalogue we have ever issued. If you do not receive a copy, please write.

BENJ. ALLEN & CO. (Wholesale Only),

Besides our Watch and Jewelry Catalogue we issue a Tool and Material Catalogue, which we send prepaid to any regular jeweler upon request.

CHICAGO, Illinois.



We are unable to report any great amount of improvement in trade for this market since our last letter. Our jobbers and manufacturers confidently expect that with the election out of the way will come a restoration of confidence, an unlocking of funds, and a marked improvement in the volume of business. Retailer, wholesaler and manufacturer all alike are mighty thankful that the time for the election is drawing nigh, and this bugbear to commerce will soon be put aside, and everybody will be free to try and regain some of the falling off in trade of the past four months. We found in our rounds in the trade that the opinion was universal that business would greatly improve all through November.

G. V. Dickinson, of the Elgin National Watch Company, was interviewing our jobbers last month.

Returning travelers report that trade throughout the Ohio territory has been looking up the past few weeks, and that dealers generally are very hopeful of a prosperous holiday trade.

L. Gutmann remarked, when asked by THE KEYSTONE representative as to trade prospects, "We expect all the business we can do in November."

The demand for the handsome new illustrated catalogue of E. & J. Swigart still continues, and that from every section of the country. The Swigart catalogue is one of the most complete, comprehensive and handy trade lists of tools, material and jewelers' findings ever issued. It should be in the hands of every live jeweler, and should you not have received it yet, it will be sent you prepaid upon request.

Walter Reukert, with D. C. Jones, the Arcade jeweler, has recently joined the benedicts.

W. H. Marum, of Oskamp, Nolting & Co.'s traveling force, has been in the house the greater part of the past month, but will be found out among his customers hustling for business during November.

J. B. Osthoff and William Pflueger, the popular and lively representatives of Joseph Noterman & Co., have been enjoying a short respite from their road duties the past month, but will start out on their holiday trips early in the present month. They both tell us that they are anticipating a lively trade.

E. & J. Swigart have been renovating their store the past month, which has greatly improved its appearance. This firm is nothing if not progressive.

William Groedel, Southern traveler for Oskamp, Nolting & Co., has been doing a good business in Florida and the Carolinas thus far this season.

Cliff Booth, the widely known salesman, who carries the Hutchinson & Huestis line, has been confined to his room at the Emery Hotel since early in last month with a complication of kidney troubles. He has been a very sick man, but is now able to be about again, thanks to a good nurse. Mr. Booth's friends among the Eastern manufacturers' agents who have visited here since his illness have been very attentive, and have succeeded in making things quite comfortable for him.

William Lavine, of Aurora, Ind., bought goods in Cincinnati last month.

J. E. Beck, of Washington C. H., Ohio, was a buyer here last month.

Jeweler J. C. Thompson, of Lawrenceburg, Ky., was buying goods in this market recently.

Herman Smith, of G. E. Smith & Sons, Parkersburg, W. Va., was a recent trade visitor here.

Jeweler Frantz, of Frantz & Opitz, New Orleans, was in town recently, calling on his friends in the trade.

R. H. Smith, of Hinton, W. Va., was a buyer in this market the early part of the month.

Jeweler Porter, of Porter & Radebaugh, Union City, Tenn., was in town recently, making a selection of fall novelties.

John Ballinger, of Maysville, Ky., was a trade caller here the early part of the month.

E. C. Barlow, of Georgetown, Ky., bought goods here recently.

J. A. Awalt, formerly manager for Awalt & Co., has resumed business at 507 Walnut Street under the style of the house with which he was formerly connected.

Frank Cross, the former well-known watch salesman, but now a retail jeweler at Columbus, Ohio, was in town recently, calling on his friends in the trade.

Frank B. Carey, a jeweler, of Lebanon, Ohio, near here, who is well known among the local dealers, has announced his engagement to Annie Louise Surber, of Hillsboro, Ohio.

The matter of the formation of a Jewelers' Board of Trade came up at the meeting of the wholesale jewelers and manufacturers of Cincinnati, last month, and was very favorably discussed. The members present were taken with the idea, and were willing to embark upon such an undertaking. After some discussion it was decided, however, to defer action until the annual meeting, which occurs in January, at which time a full attendance will be had and the matter taken up as a special business. The formation of such a Board of Trade can be done, according to the idea of its promoters, with great benefit to the trade in Cincinnati. The local association now numbers twenty-six members, and there are others who will enter the proposed body if formed.

"I consider The Keystone perfect now, and do not see how you can improve it; but take your word for it."—W. W. Vosburgh, jeweler, Allegan, Michigan.

How a Jewelry Stock Should Be Kept.

Chas. E. Rose, El Reno, Oklahoma, enjoys the distinction and satisfaction of being one of those jewelers who continued to prosper at an accelerated pace during the depression. The explanation is that Mr. Rose is one of the best advertisement writers in the trade; that he advertises continually, never using the same advertisement twice in succession nor advertising more than one thing at a time; and that he is an accomplished business man, whose stock is well kept and whose window is a perpetual delight. The following account of how Mr. Rose keeps his stock and makes his window attractive is of general interest:

Being limited for show-case room, I had my safe made sixteen inches deep, to accommodate large trays 11¾ by fifteen inches, locket and other trays, half size, and ring trays, one-fourth size. My safe holds forty-four full-size trays. A shelf in the back of each show-case, five inches below top glass, holds small trays and sundry articles. Chain trays are grooved, locket trays are partitioned in squares, and trays for card goods have paper partitions. The trays are all polished walnut. Cards for brooches, earrings, cuff-buttons, single studs, etc., are all cut the same size. Cards for scarf, stick and lace pins are of uniform size. Diamonds are kept in individual boxes.

The goods are not only in pretty good order, but *absolutely clean*. All watches, chains, charms, etc., when purchased, have new tags put on them. Card goods are all recarded, and all stock numbers and prices are put on back of cards, leaving the front clear and white.

Except watches, all small goods are cleaned, recarded and retagged at home by my wife, who is an expert in that line. I have no regular time for cleaning stock, but as soon as a card or tag is soiled, it is replaced with a new one. At no time is my stock mixed up. If a customer insists on turning over half the cards in a tray, they can quickly be put back into place. Without partitions a stock always looks untidy, no matter how clean it is kept.

Regarding my window displays, like my advertisements, there are no two *exactly* alike, and I usually make them decidedly different. I have plate glass front and side, and an inside sash, with door in center, hung with weights. I have three curtains inside the back sash, black silk draw curtains, when base of window is black, and white silk draw curtains, when base of window is white.

Sometimes I have the floor of window plain, other times I have a raised base of four inches, in three sections, the front being in the form of an ellipse. Around top of circle are hooks to display watches and chains. Card goods and pieces of silver can be placed against raised base.

In center of circle I have a turn-table twenty-four inches in diameter, with top on a level with floor of window. The table can be built up as desired, or covered when base of window is plain. I have the window lighted with four sixteen-candle power incandescent lamps. Two in corners at front of window, two feet above bottom of glass, the others hanging from ceiling, two feet apart. This gives me the brightest window in town, and it can be seen a great distance.

I have a two-globe radiometer at times in the center of turn-table. I have two jumping and two swinging clocks. At times I have the swinging clock over in front of the

window, so the babies in the swing will kick the glass, which attracts all passers-by, and is always a source of amusement to the children, and when the children stop the mothers do. I have more than 150 old and rare coins of different nations, and display some of them at times. In show-window I have a Western Union electric clock with second hand, corrected hourly. One feature of a display last week was twelve gold and twelve silver dollars on a checker board.

A druggist occupies the store with me and my window is lighted until ten or ten-thirty every night, and I make it a point to have a display in my window all the time, so that while I sleep my window is still busy. In fact, I aim to have the busiest window and store in Oklahoma.

IMLER, PA., October 5, 1896.

EDITOR OF THE KEYSTONE.

Enclosed find one dollar for THE KEYSTONE another year. Perhaps the dollars will not be so scarce by that time, but, be they plenty or scarce, I must have THE KEYSTONE. I find most of the questions I would ask answered before I have occasion to ask them. I see a great deal in the papers about the silver dollar, but very little about the gold dollar. Would you kindly tell us if the number of grains of pure gold in a dollar has ever been changed since it was first authorized to be coined?

Yours truly, W. P. GRIFEITH.

[The number of grains in a gold dollar has been changed. When the coinage ratio of silver to gold was changed in 1834 from fifteen to one to sixteen to one, the number of grains of pure gold in a dollar was changed from 24.7 to 23.2. Another change (if we might call it such) was made in 1837, when the number of grains was changed from 23.2 to 23.22. The latter very slight change was made for convenience in calculation.—ED.]

A Few Maxims From Gibson's.

It does not pay to tell everybody how bad trade is.

If trade happens to be bad with you and good with your neighbor, there is a screw loose somewhere.

Never let your experience lie dormant. If it has taught you anything, abide by its teachings.

The man who lost money last year because he was not up to his trade, cannot afford to repeat the dose.

If you do not like to do new things you had better cure yourself of a bad habit.

In these days new things generally bespeak enterprise. Without enterprise you become a stale old back number. See if a little boosting won't increase your sales. Sitting down and thinking is useless if nothing comes out of the think.

There's more money in action than there is in thought. But one without the other is valueless.

If you cannot pay cash for your goods, pay as near cash as you can.

Long credits cost money, and you cannot afford to create needless expenses.

If you have a partner who does not agree with you, 'tis better to separate.

There's more money in roosting alone than in living in a divided house.

You ought to study fashions and fads closely.

Be posted, no matter what it costs. It is cheaper to know what you are doing than to go it blind.

Luck and business seldom stay with each other.

You may have luck, but when it goes back on you your creditors have everything.

Don't wait until you see a new thing in your neighbor's store before you get it.

—Brains.

Good Advice.

As a successful man Leland Stanford earned the privilege of advising young men how to succeed; and as a shining example of what young men may accomplish, his advice will be welcome. Mr. Stanford says:

"First, be industrious. Second, have a settled plan. Third, be everlastingly persistent in both. These applied to fair ability will win, for all legitimate business is profitable in the end. There is only one class of men who die rich. They are those who always can save something out of what they earn. Most men who have the ability to save die rich. Not many die rich who make large sums of money fast. They may make ninety-nine successful speculations, but in the hundredth one, when the risk is in proportion to their daring and their wealth, they lose it all. Mr. Cook, financial agent of our government, once told me that the largest check he ever saw was one drawn by Daniel Drew for \$7,000,000 in payment for government bonds. I saw a red auction flag over Daniel Drew's door."

THE BRAND WITHOUT A RIVAL

ROGERS' ANCHOR BRAND

SILVER PLATED WARE.

The above is to SILVER-PLATED WARE what "Sterling" is to Solid Silver, THE STANDARD OF QUALITY AND EXCELLENCE.

The Rogers "Anchor" Brand of Silver-Plated Ware has a reputation the world over for its through and through quality and excellence of design.

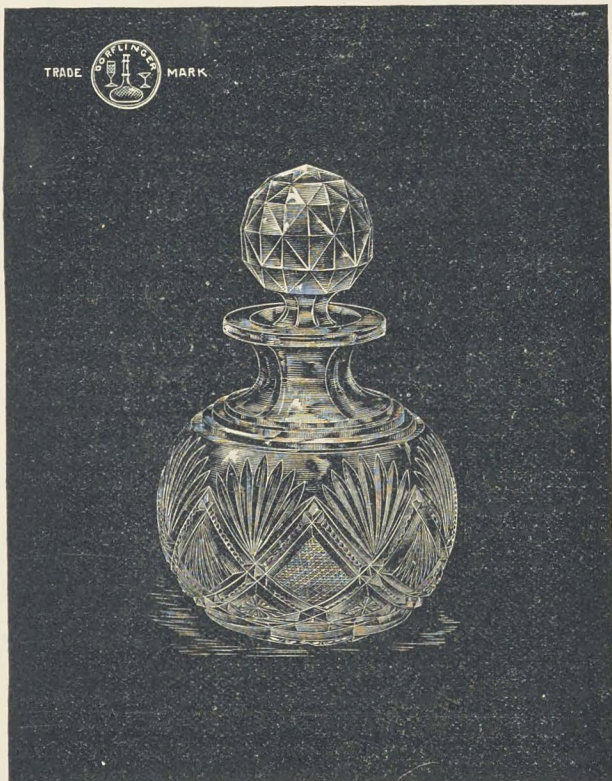
Don't confuse it with any of the other Rogers brands—
this is the original and made only by the

WM. ROGERS MFG. CO.

HARTFORD, CONN.

Factories { HARTFORD, CONN.
NORWICH, CONN.
WALLINGFORD, CONN.
TAUNTON, MASS.

**DORFLINGER'S
AMERICAN CUT GLASS**



GLOBE COLOGNE BOTTLE

C. DORFLINGER & SONS

36 Murray Street

NEW YORK

915 Broadway

A Striking Window Attraction



THE CONFESSION.

Majolica Group

appropriately decorated (12 inches long),

\$5.00

NET CASH.

Levy, Dreyfus & Co.

9 & 11 Maiden Lane, New York.

Decorators of Art China Novelties suitable for jewelers.
Packages of \$25.00 worth of new goods selected with care
and sent as a sample line on receipt of cash or references.

PARTICULARS FURNISHED CHEERFULLY.



There was, of course, an improvement in business during October as a natural result of the exigencies of the approaching holiday season, but the political turmoil and uncertainty continued to discourage enterprise, and the aggregate volume of business was unseasonably small. Some report a normal business for the month, but collections are slow and credits are watched closely. The political uncertainty, the great depressing factor, will disappear on November 3d, and our next report will deal with entirely new and, let us hope, improved conditions.

Thomas Kirkpatrick's new store, at 334 Fifth Avenue, opposite the Waldorf Hotel, was opened for business on October 5th. Both fixtures and stock are such as befit the location.

L. Tannenbaum & Co., 52 Nassau Street, recently filed a certificate of incorporation. The Company will deal in diamonds and precious stones. The capital is \$500,000. The directors of the Company are Lippman Tannenbaum, Hugo Oppenheimer, Max Goldsmith and Lachlan McCormick, of New York City, and Moses Lindenbaum and Alexander Samuels, of London, England.

Paul A. Meyrowitz recently severed his connection with Meyrowitz Brothers, and is now conducting an optical business in the store of Wise & Miller, 332 Fifth Avenue.

The Gorham Manufacturing Company has leased the store at Fifth Avenue and Twenty-sixth Street. It will be used as a branch retail establishment during the holiday season.

The Holmes & Edwards Silver Company has opened an agency for the Whiting Manufacturing Company's goods at 2 Maiden Lane. A complete line will be shown.

H. Burgaller has begun business as a manufacturing jeweler at 85 Nassau Street.

Shickerling & Lang, a new firm of diamond setters, have located in the Lorsch Building, 37 Maiden Lane. Both members of the firm are men of experience in the business.

R., L. & M. Friedlander, 30 Maiden Lane, have issued a new watch and diamond catalogue, a copy of which will be a valuable addition to the works of reference of every jeweler.

Bartens & Rice, retail jewelers at 20 John Street, have been incorporated as Bartens & Rice Company, with a capital stock of \$25,000, divided into 2500 shares at ten dollars each. The directors are Charles Bartens, Thomas E. Rice and Lippman Tannenbaum.

Wm. N. Le Cato, receiver of Leroy W. Fairchild & Co., has invited creditors to present their claims to him at 889 Broadway, on or before November 25th. Persons indebted to or holding property of the insolvent corporation are notified to pay and deliver the same to the receiver on or before the same date.

The Seth Thomas Clock Co., 49 Maiden Lane, have issued a new illustrated catalogue. The compilation tells of all varieties of clocks for all purposes, and an interesting portion of it deals with clocks of precision in which every other consideration has been made subservient to accuracy in timekeeping.

The New York Jewelers' Association decided at a recent meeting that, owing to the political agitation and the difficulty of obtaining speakers, the consideration of the annual dinner be referred to a meeting to be held by the directors after December 25th.

A score or more people in this city contributed their gold watches to the missionary cause during the great meeting a few Sundays ago, and received the movements back in iron cases. This will mean, no doubt, for the jewelers the sale of as many gold cases as were given away.

At the twenty-second annual meeting of the New York Jewelers' Association the following officers were elected for the ensuing year: President, Aaron Carter, of Carter, Hastings & Howe; vice-president, James P. Snow, of Snow & Westcott; treasurer, Frederick H. Larter, of Larter, Elcox & Co. The new directors elected are John W. Reddall, of John W. Reddall & Co.; George W. Shiebler, of Geo. W. Shiebler & Co.; Ludwig Nissen, of Ludwig Nissen & Co.; Frederick S. Douglas, of Shafer & Douglas; C. G. Alford, of C. G. Alford & Co.; Henry E. Ide, of H. C. Hardy & Co.; John T. Howard, of Howard & Cockshaw; S. Cottle, of S. Cottle Co.; David C. Townsend, of E. Aug. Neresheimer & Co.; and R. M. Woods, of Dominick & Haff.

Aaron Lauterbach, formerly with Goodman Brothers, has begun business as a dealer in diamonds and diamond jewelry at 41 Maiden Lane.

Great preparations have been made by the Jewelers' McKinley & Hobart Club to turn out between 5000 and 6000 members in the great Republican parade October 31st. O. G. Fessenden, of Hayden W. Wheeler & Co., will be chief marshal. A pretty and appropriate badge has been contrived for the occasion.

At the regular monthly meeting of the board of directors of the New York Jewelers' Board of Trade the Whiting Mfg. Co., Broadway and Eighteenth Street; John F. Saunders, 26 Maiden Lane; Eisenmann Bros., 23 Maiden Lane; A. R. Katz, 87 Nassau Street; and Hammel, Riglander & Co., 25 Maiden Lane, were elected members.

The flag display in this city is unprecedented, and gives the city a holiday appearance. It is said that over 600 permits have been issued for large flags and banners, and almost every block in the business section below Fourteenth Street now contains the stars and stripes suspended across the street. The jewelry district leads the way, and is far more profusely decorated than any other section of the city. Almost every building along John Street and Maiden Lane occupied by the jewelry firms displays the flag in some manner. Some have flags suspended out of the windows; and others have windows trimmed with the national colors. Leaving out the consideration of politics altogether, this display of the flag is certainly an inspiring one.

Rogers & Brother, 16 Cortlandt Street, have been very busy in the past month with several large orders. They have found it necessary to run the factory at night for a while, in order to get these orders out quickly, and not fall behind with the regular work. It is said that their working their factory into the evening hours has created a great deal of favorable comment about Waterbury, as it has reminded them of the prosperous times preceding 1893. It has created a spirit of hopefulness that the trade is on the eve of a brighter era than it has passed through for several years.

Green Bros. wish to call the attention of the trade to the fact that they are still the sole agents for and control the sale of the well known "G.B." mainspring. This announcement is made necessary by the use of this copyright term by another house in this city, on their mainsprings, and advertised by them in one of the trade journals. Green Bros. have served formal notice on the firm that they will protect their copyright and take means to redress its violation. The genuine "G.B." springs are also known as the "Imperial," which word appears on the end of each spring, with a maltese cross, containing the letters "G. B. N. Y." stamped on each tag. The "G.B." spring has become well known in the trade through extensive advertising backed by its well-tested value.

"Please send us the September number at once, and continue to send them—never stop. Whenever the subscription is run out, and you do not hear from us, simply draw for the amount, and the draft will always be honored. To lose The Keystone is like losing a good friend."—Buder Bros., jewelers, Columbus, Mississippi.

The Newest Envelope.

Opening an envelope by pulling a string is the latest labor-saving device. Like all simple contrivances, it seems queer no one thought of it before, but that doesn't impair its usefulness.

Any envelope can be equipped with the opener. An ordinary piece of thread is inserted at the top of the flap, and when the fold is made the thread projects from one end. To open the envelope all that is necessary to do is to pull back the thread.

This envelope opener is a New York invention, and it promises to be very popular with the busy business man. Our readers have, no doubt, noticed that the wrapper in which THE KEYSTONE reaches them is opened in the same way, by pulling a string.

Lever Clocks.

ED. KEYSTONE. CEDAR SPRINGS, MICH., Oct. 8, 1896.

In this month's issue of your journal I notice the question of "Lever Clock." My formula is: take the clock apart, clean if necessary, turn balance pivots to fine point and polish, remove old roller pin and replace same with a piece of needle of same size. If pins are used in the escapement, I remove them and substitute a piece of needle. I then smooth escape-wheel teeth and polish.

Yours respectfully,

EDWARD W. WHEELER.



A brisker business and growing confidence in the result of the election put the manufacturers in this section in better humor during the last month. One of the leading manufacturing concerns in Providence, we were assured, had all the orders it could conveniently attend to, and the report was by no means an exceptional one. Nevertheless, business, on the average, is not by any means what would be expected at this time under normal conditions, and much is hoped for from this month. Confidence in the future is revealed in the rapid tenantry of the new Jesse Metcalf and other big buildings, and the promised erection of yet other monster hives of industry.

S. & B. Lederer will erect a seven-story building on Mathewson Street, which they expect to have ready for tenants by midsummer.

H. M. Williams & Co., makers of gold-plated seamless wire and tubing, will occupy the rooms recently vacated by Watson & Newell Co., Attleboro.

The business of Bugbee & Niles, North Attleboro, is being conducted by the surviving partner, Gardner H. Niles, until the estate of his late partner has been settled.

The big tool and machinery-making plant of the Mossberg & Granville Manufacturing Co., Attleboro, will be removed to the Kent & Stanley Building, Providence. There is a rumor of the removal to the same city of a large silver-smithing concern of New York.

B. E. Lovell, for two years in charge of the ring department of D. F. Briggs Co., Attleboro, has started in business for himself at 227 Eddy Street, Providence. He will make all sorts of rings, rolled-plate, filled and solid.

Calvin Dean, Providence, has removed from his former quarters on Pine Street to a larger factory at 19 Page Street.

Walter E. Sanford, Attleboro, has sold his enameling business to George Salter.

White & Shaw, manufacturers of jewelers' findings, in South Attleboro, have dissolved partnership. The business will be continued under the style of the William P. Shaw Company. Mr. White has begun business in the Watson & Newell Company's factory under the style of D. A. White & Co.

The George L. Vose Manufacturing Co., Providence, has completed its organization. The officers of the Company are president, Edgar A. Mowry; secretary, George H. Coggsill; treasurer, George L. Vose. Geo. L. Vose has sold to the Geo. L. Vose Mfg. Co. all the manufacturing stocks, accounts, bills receivable, etc. The entire business, at 59 Clifford Street, will be carried on by George L. Vose Mfg. Co. Mr. Coggsill, secretary of the Company, acts as traveling representative.

Walter R. Bowes has succeeded the former firm of Bowes & Crandall, at 113 Point Street, Providence. Mr. Bowes will continue to make a line of novelties in jewelry, including bracelets, neck chains, eardrops, scarf and stick pins, rings, etc.

Alfred E. Dickerson, of Dickerson Bros., manufacturers of gold chains at 94 Point Street, Providence, died October 6th.

C. W. Kelly has taken the entire store at 82 Westminster Street, Providence, and now rejoices in one of the finest jewelry establishments of its size in the city.

Henry Lederer & Bro., 226 Eddy Street, Providence, have taken the remainder of the floor in the building in which they are located, so that they now occupy an entire floor.

D. F. Adams is removing from 100 Stewart Street to 129 Eddy Street, Providence.

C. B. Donle has removed from the ground floor to the upper story of the building at 109 Friendship St., Providence.

Samuel Darling, one of the best known business men of the city of Providence, and, until within two years, a member of the firm of Darling, Brown & Sharpe, died suddenly a few weeks ago. Mr. Darling was best known through his connection with the firm of Darling, Brown & Sharpe, manufacturers of instruments of precision.

The one thing to be regretted locally on election day is the fact that it will end what has proved to be a most profitable industry, viz., the manufacture of campaign buttons and badges. The nature of the issue between the parties gave the manufacturers an exceptional advantage, and they made good use of it.

Now For Business.

Is your stock as complete as it should be? Any further delay may mean the loss of sales. Why not anticipate your wants now?

WATCHES—The new 12-size Waltham Riverside Maximus and the Riverside and Royal Movements. Have you them? This is a size desired by many gentlemen, and not too large for boys. Gold and Filled Cases in a variety of styles to fit. Our pocket price-list of Cases and Movements, just issued, gives all the changes in prices and shows many new goods. The Waltham and Elgin Companies have just issued 7-Jewel Nickel Movements in O, 6 and 18-size.

DIAMONDS you will want, and we wish to remind you that we are headquarters for these goods, and here you will find a stock always complete in both loose and mounted.

JEWELRY we have a representative stock of, in fine gold.

MAIL ORDERS we receive from every State, and the sales resulting therefrom represent a large part of our business. Why is it? Because our stock is up to date; we give particular attention to each order; they are filled by those who know how; and when goods go on Memorandum, a liberal selection is always sent. Are you a Customer? If not, we want you to be. Why not try us?

Hayden W. Wheeler & Co.

Number Two Maiden Lane

New York

50 Holborn Viaduct
LONDON

GOOD TRADE



is attracted by high-class goods. Our Silver-Mounted Glass Wares and Novelties in Silver are Original in Design, Extensive in Variety, moderate in Price.

Bachrach & Freedman, Silversmiths, 1 & 3 Union Square, New York.

VACHERON & CONSTANTIN WATCHES



FAC-SIMILE OF FIRST PRIZE DIPLOMA.

WERE AWARDED THE

FIRST PRIZE

for series, and six other prizes, at the Geneva Observatory, 1895.

FIRST PRIZE

at the recent International Contest for Watches at Geneva Observatory, 1896.

GOLD MEDAL

and First Place upon the list of awards at the Swiss National Exposition, 1896.

THE VACHERON & CONSTANTIN WATCHES have obtained the highest honors on their first appearance in any competitive contest.

Agent for the United States and Canada,

EDMOND E. ROBERT,

3 MAIDEN LANE, NEW YORK.

(CUTS ONE-HALF ACTUAL SIZE)

PLATE No. 2

No. 9413 Nail Polisher, \$2.00

No. 9153 Letter Moistener, \$1.40

No. 8911 Knife, 70 cts.

No. 7775 Combination Comb, \$1.60

No. 8945 Eraser, \$1.70

No. 8626 Vinaigrette, \$3.30

No. 9447 Work Set, \$3.20

No. 9531 Curling Iron, \$2.00

No. 9518 Button Hook, \$2.50

No. 9323 Tooth Brush, \$1.38

No. 4293 Rabbit Foot, 46 cts.

No. 9283 Hat Brush, \$2.00

No. 9364 Emery, 50 cts.

No. 8365 Garter, \$2.54

No. 9492 Desk Set, \$4.70

Leys, Trout & Co.
MANUFACTURERS
Prescott Building John St.
NEW YORK

STERLING SILVER NOVELTIES (according to Keystone Key and less cash discount).

St. Paul and the Northwest.

October business has been quiet with the retailers, but the jobbers report it satisfactory. Prospects are brighter than for some time past, owing to the increased price of grain and the approaching termination of the political campaign. Collections are only fair, but November and December business will undoubtedly bring in a good round sum. All feel as though the worst is over. Holiday business is always the jewelers' harvest time, and this year will prove no exception.

W. C. Leber, Minneapolis, has returned from a hunting trip to northern Minnesota. He reports good success and a rest from business cares.

U. F. Lemire, formerly at Barnesville, is running a store at 501 Rice Street, St. Paul.

J. B. Robins, Barnesville, Minn., has opened a store for himself there.

C. F. Sischo, of Sischo & Beard, St. Paul, has returned from a business trip to northwest Wisconsin and Minnesota.

A. Green, Minneapolis, has removed to 213 Washington Avenue, S.

George Davidson, St. Paul, has removed from the Chamber of Commerce building to 373 Selby Avenue.

Otto H. Arosin, St. Paul, spent a few days recently on a business trip to Chicago.

Lawrence Hope, St. Paul, was called to Hammond, Wis., by the death of his father, September 28th.

Frank B. Searle, Augusta, Wis., has started a repair shop at Milaca, Minn.

A. C. Campbell, Sheldon, Iowa, has removed to Topeka, Kansas.

W. W. Arnes, Owatonna, has gone to Breckenridge, Minn.

W. Peabody, Minneapolis, is closing out the stock of the I. B. Miller Jewelry Co. at auction. E. W. Aldrich has charge of the sale.

Amasa S. Weller, St. Paul, has opened a branch store in Minneapolis.

John Post's store at Parker's Prairie, Minn., was entered by burglars, October 7th, and relieved of watches and jewelry, also \$400 in cash.

C. G. Reim, New Ulm, Minn., report a "new girl" arrival at his home. We extend congratulations.

John B. Erd, St. Paul, has returned from a two weeks' visit with relations at Duluth, Minn.

Moritz Albrecht, St. Paul, has been serving his country as a juror, doing his two weeks' duty at a sacrifice to his business.

Alfred Wissing, Sioux City, Iowa, has been having a "cash-raising auction sale" the past month.

N. G. Whitney, Eyota, Minn., has been re-elected presiding elder of the Minnesota United Brethren Church.

L. S. Dahl, St. Paul, spent a few days the past month hunting and fishing at Rush City, Minn.

Louis Gans, of the H. E. Murdock Co., Minneapolis, is in from his Western trip. Lou says business will be better after election.

G. D. Bruce Tudor, St. Paul, was all smiles when seen by THE KEYSTONE reporter recently; cause, a ten pound boy at home, October 12th. Our best wishes, Bruce.

T. G. Mahler, Le Sueur, Minn., visited the Twin Cities recently to hear Candidate Bryan present his side of the financial question. He reports a good speech, but too big a crowd.

A. J. Metzger has accepted a position with Henry Bockstruck, St. Paul, Minn.

The Tudor Optical Co., St. Paul, have decided to give up their jobbing office in the Chamber of Commerce Building. All their business will now be conducted at their retail store, corner Sixth and Wabasha Streets.

J. B. Hudson, Minneapolis, has returned from a business trip to New York.

F. Frederickson, Sleepy Eye, Minn., is now comfortably settled in his new store.

Fred. Lancot, Ada, Minn., who had his tools levied on by creditors, because he left the State for a few weeks, visiting friends, has brought suit for \$1000 damages against the parties.

Miss Emma Yaeger, St. Paul, has accepted a position as engraver and saleslady with O. H. Arosin.

M. Morrison, Winona, has sold his jewelry department to R. J. Thierstein. He has retained part of the store, and will hereafter devote his entire time to the optical business.

Munns & Pomerleau, Minneapolis, have removed from 202 to 221 Central Avenue—a larger and better location. They have put in a special optical department and will push this with vigor.

Isaac Mann, Sibley, Iowa, has sold his store building, and is now closing out his stock, preparatory to seeking a new location.

Harry P. Turner, for some time in business for himself at Spring Valley, Wis., is now working at the bench for M. L. Finkelstein, St. Paul, Minn.

A. Baettig, St. Paul, has returned from a three months' visit to his old home in Europe, and is back at his old position with Myers & Co.

Jesse Foot, for several years watchmaker for M. L. Finkelstein, has accepted a position with Geo. R. Holmes, St. Paul.

Fred. Willman, Stillwater, Minn., spent a few days recently at Rice Lakes.

F. C. Jarvis has accepted a position with Eustis Bros., Minneapolis.

A. J. Lee, Hudson, Wis., enjoyed a week's vacation, hunting in northern Wisconsin.

Will. H. Beck, Sioux City, Iowa, commenced October 1st to sell his stock at auction, to reduce it to reasonable proportions. P. J. Burroughs is conducting the sale.

E. A. Tiffany, Amboy, Minn., has THE KEYSTONE's sympathy in his recent bereavement, his wife having died October 7th.

Twin City jobbers were not over crowded with visitors the past month, owing to the fact that all who could do so came previously, taking advantage of low excursion rates. Those noticed were Harry Stein, Stillwater, Minn.; H. F. Alden, Sauk Center, Minn.; N. Nelson, Brownston, Minn.; T. G. Mahler, Le Sueur, Minn.; Peter Eustis, Watertown, S. Dak.; W. J. Stein, Stillwater, Minn.; N. G. Whitney, Eyota, Minn.; Lucien Diacon, Chaska, Minn.; Fred. Lancot, Ada, Minn.; Fred. Willman, Stillwater, Minn.; and C. Vasaly, Waconia, Minn.

"Raise the subscription to five dollars per year, and it will be appreciated. You do not get enough for its value."—C. N. Ostrander, jeweler, Alden, Minnesota.

"The Melancholy Days."

BY JOHN TWEEZER.

"The melancholy days are come, the saddest of the year," lamented the poet, as he looked out across the "meadows brown and sere," and heard the wailing winds sweep through naked woods and lift the sodden leaves that eddied in the hollows. Nature sits in the sackcloth and ashes of a hopeless despair. The finger of the frost, touching her leafy summer garniture, has withered that lovely mantle of green and tumbled all the glory of her dress into the mire of prosaic earth. For a brief day or two, as if in compensation for the catastrophe which was to follow later, the frost painted the summer green with streakings of gold and splashes of scarlet and pencilings of mellow brown and glorious purple; and for a time the trees and bushes flaunted this picture of warmth and beauty into the face of winter, as if to defy its power and challenge subjugation. But it was only the hectic flush on the cheek of Nature, which told all the more plainly of the quickening of disaster; and the sad winds soon fell to sobbing the requiem of departed summer and "sighing for the days that are no more."

But the frost would seem to have a conscience, notwithstanding the woe and wretchedness that he brings to the face of nature, and the anguish he puts into the hearts of Nature's lovers; for in good time he will take pity on the naked boughs and dress them in ghostly semblance of their summer glory, when he shakes out of the sky a feathery foliage of snow for their adorning, and puts upon the broad shoulders of the forests a mantle of white. Or is it that the conscience of the frost is moved to dress in funereal white, as if for burial, the boughs whose leafy children his icy breath has slain? Or is it that the frost is a lover whose court is paid to nature in the wintry days, and who dresses his bride all in snowy white and covers her with diamonds of ice, and hangs about her pearly chains of rain-drops, that the nuptials may be celebrated with royal splendor? Alas! those festal days are yet to come, and the other festival of summer is past, and it is drear November with its "melancholy days, the saddest of the year."

Not only are the trees leafless, but they are lifeless; for the birds have long flown, and never a song breaks through the chill air to captivate the ear and stir the heart. Not only has color left the face of nature, but her smile has gone as well. The choristers of her leafy cathedrals have deserted her, and only the old winds are left to wail the "Miserere" in this season of "the melancholy days."

Nature is indeed bereft of life and color and warmth and joy, and aches with dumb despair in her manifold afflictions; but these days which bring to her such dire distress bring to the human heart an emotion which does not reflect the sad coloring of the external world. For the heart of man now begins to feebly stir with the first pulsations of the Christmas spirit, and afar off gleams the first faint radiance of the star which guided the Wise Men to the manger in Bethlehem. Though frosts may scar the face of earth, and bitter winds sweep down from shivering skies, and leaf and bird be lost to the sad watching eyes, yet these winds bring the silvery sound of Christmas bells across the intervening chasm of days, and ever nearer, clearer, sounds the message from Judea, "Peace on earth and goodwill to men." With such vision in our eyes, and such cheer filling our ear, there can be no melancholy in the

dreariest November day, but only the joyful hope of the brightness of a day when we shall sometime stand in "the light that never was on land or sea."

One-Idea People.

I have just come from a talk with a one idea man. He is a vegetarian; but he has dwelt so long upon the subject of a vegetable diet that it has finally taken possession of him, and every other question is now thrown out of its legitimate relations to him. He questions the properties and qualities of every mouthful that passes his lips, and watches its effects upon him. He has ransacked the whole Bible for support of his theories; the poor fellow really believes that the salvation of the race hinges upon a change of diet. He has fixed on this question as the standard by which to decide the validity of all other truth. Experiments or opinions that make against his faith are either contemptuously brushed aside or ingeniously explained away. He is a man of fine natural powers, but his mind has been reduced to the size of his idea. His reason is disordered. His judgment is perverted, and he sees things in unjust relations and proportions. I think he is demonstrably insane. He is a type of the "one-idea man."

Look where you will, you will find examples of the starving effect of the entertainment of a single idea. The temperance people exploit a humane and worthy cause; yet temperance as an idea is not enough to furnish food for a human soul. If I should wish to find a narrow-minded, uncharitable, bigoted person quickly, I would look for him among those who have made temperance the specialty of their lives—not because temperance is bad, but because *one idea* is bad. The temperance "enthusiast" permits no liberty of individual judgment, no range of opinion. It is hurtful to him. The sailor, kept too long upon hard biscuit and salt pork, acquires scurvy. The Irish peasant who lives entirely on potatoes grows up with weak eyes and a stunted body. So with the soul. It bears relation to such a wealth of truth, such a multitude of interests cluster about it, it touches and receives impressions from all other souls at such an infinite variety of points, that it is absurd to suppose that one idea can feed it, even for a day.

The whole body of professional agitators and miscalled reformers are men of one idea. They frequently do good, directly and indirectly, but they as frequently do harm; and the worst of the harm falls upon themselves and their cause. Like blind old Samson, they may prostrate the pillars of a great wrong, but they crush themselves and the Philistines together. With sublime but misguided heroism, they angrily beat themselves to death against an instituted wrong, and the indifferent world looks on and laughs at their futile sacrifice.

It is not the *quality* of the idea which a man entertains that hurts him. A man will sicken if he fares exclusively on beans as on beef, on peaches as on parsnips. It is because the human soul cannot live on one thing alone, but demands participation in every expression of the life of God, that it will dwarf and starve upon even the grandest and most divine idea. There are thousands of sapless, sad and sanctimonious Christian ministers who live poor, thin, stingy lives, because all ideas save the religious one have been shut out from them. The greatest preachers are those who have the largest knowledge of and sympathy with men, the broadest culture, and the widest acquaintance with

all the ideas that enter as motive into human life. The fault of the others is not that they have got too much of Christianity, but that they have not enough of anything else. Their Christianity is all right, but it wants mixing with humanity before it will have a practical value.

It is right to make money; it is right to be rich, when wealth is honestly won; but when money making becomes the supreme object of a man's life, the soul starves as rapidly as the coffer fattens. The despotic king becomes a subject. Making the single idea a motive and pivotal point of action, a supreme object of devotion, is mental and moral suicide for the poor rich wretch who is a "one-idea" man on the subject of wealth.

Whether the effect of devotion to a single idea be hurtful or otherwise to its devotee, nothing is better proved—nothing in all philosophy is more clearly demonstrable—than the fact that it is hurtful to the *idea*. The man who subordinates every other matter to it, who accuses all its opponents of unworthy motive, thus exhibits his absolute slavery to it, and ruins the cause he espouses, because one sees that his interests and prejudices are too deeply involved to permit of sound judgment upon it. He is so intimately connected with his idea, is so much interested in its prosperity, that he is not competent to testify in relation to it. He cannot entertain a rational comprehension of its relations to himself and the community. He is possessed of his idea, instead of possessing it. He is its slave, and must do its bidding.

When you encounter the one-idea man, if he rants and scolds and denounces, ask as to his credentials. How large a man is he? How broad are his sympathies? How wide is his knowledge? How catholic his tastes? What relation does he bear to the great world of ideas? What is the relative importance of his single idea to the complex total which makes for the good of the whole human society?

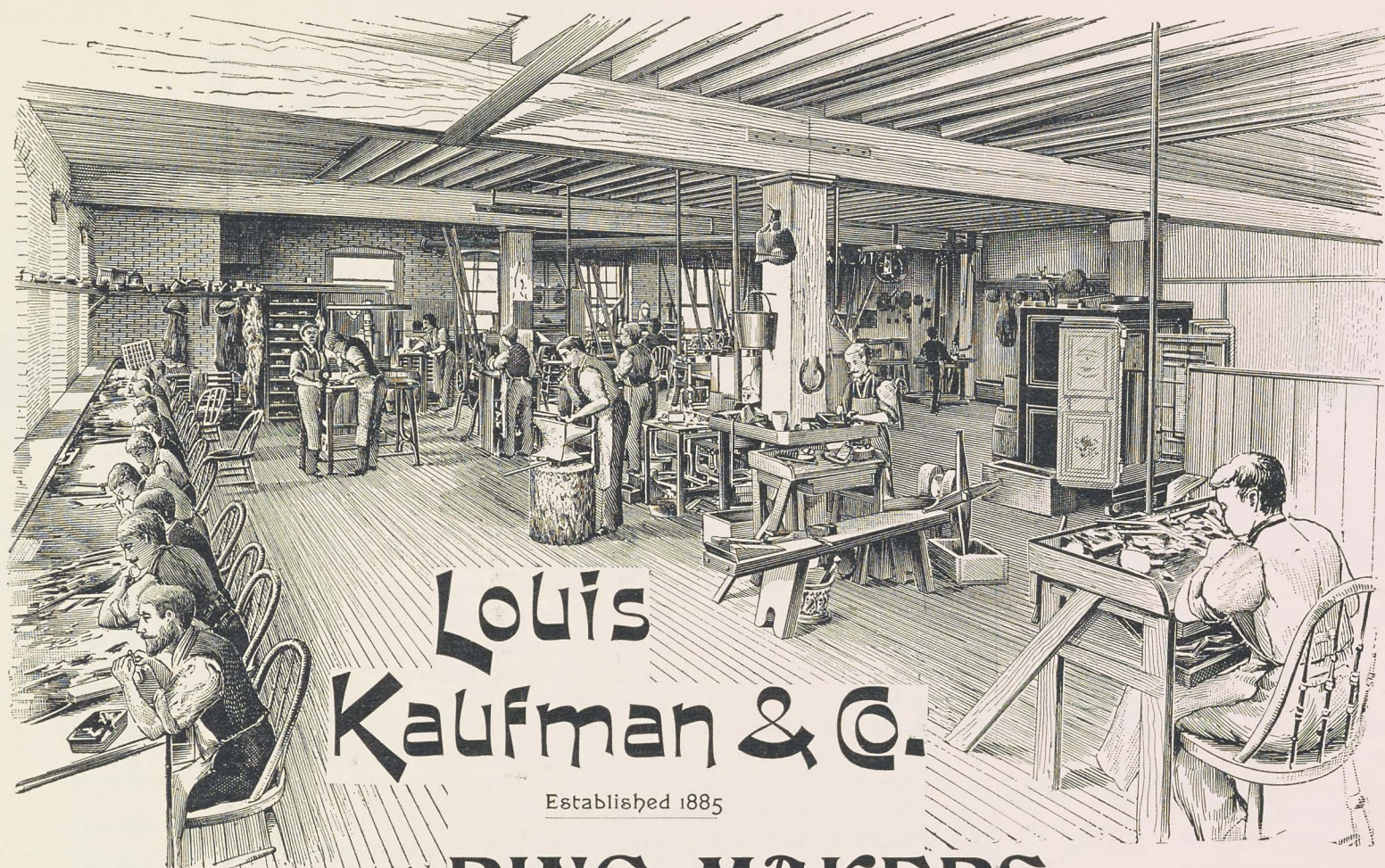
Alas! my poor vegetarian!

"A BAD beginning," says the proverb, "makes a good ending." Was ever greater fallacy compressed into seven words? If it is so, what encouragement can the unfortunate find who begins *well*. If it is so, what foolishness to "put one's best foot foremost" at the outstart, as such zeal and effort must end in disaster. Begin badly as you please; fly in the face of tradition, violate every principle of legitimate business, speculate, be idle, be foolish: it "makes a good ending," says the proverb. Who makes the *worst* beginning, by inference, will end the very best; who takes the greatest pains to start right is surest to go wrong.

What folly has been written into proverbs! Here is one which would put a premium upon recklessness; which would strangle enterprise, and faith, and training, if it was to be literally obeyed; which is fundamentally wrong in every syllable. Had the proverb-writer qualified it, and made it read "A bad beginning *may* make a good ending," it would have afforded a reasonable ground of hope for the unfortunate beginning, while he who started well might not need see in that initial success an augury of eventual failure; but no—the proverb-writer is a law unto himself, and so his dogmatic pen scrawled the hideous untruth. A proverb should ring true; and this proverb is a lie. Away with it!

J. T.

"Whatever you do, don't stop my Keystone; I have just returned from a visit and found your notice. I never gave a dollar as cheerfully as this one."—J. W. Kegrise, jeweler, Ida Grove, Iowa.



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A line, and one of our TRAVELERS will call.

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for the Fall Trade has just been issued. It comprises 336 pages, and illustrates a large variety of New Goods in **Diamonds, Watches, Jewelry, Silver Novelties, Silver-Plated and Solid Silver Ware, Cut Glass, Clocks, Canes, Pens, Emblem Goods, Medals, Badges, etc.**

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WHOLESALE AGENTS FOR THE

STANDARD CUT GLASS Co.

American Lathes and Their Attachments.

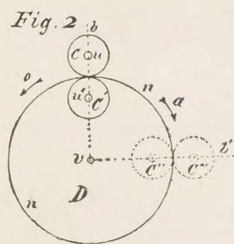
LXXIII.

Both Theoretical and Practical.



ON page 36, March, 1890, KEYSTONE, in our article "Clocks," we gave the method of delineating an epicycloidal addendum curve by the graphic process. We will now give the graphic method of producing a hypocycloid by a similar process. Before going into the details of the problem of producing such a curve, we would premise by saying that the angular motion of any two mobiles is in the exact ratio of their circumferences or diameters.

To better understand this matter, we refer to Fig. 1. Here we show two circles, the diameter of *A* being half the diameter of *B*. Let us suppose the peripheries of these two mobiles *A B*, Fig. 1, to touch, and one moves the other by friction. Now it is evident that where *B* makes one revolution *A* makes two. The same rule holds good in shorter arcs as well; that is, if *B* revolves through an arc of five degrees, *A* will move through an arc of ten degrees. At Fig. 2 we show two circles *C D* in the ratio of four to one. We wish to call attention to another fact, which is, a friction wheel of the same size as *C*, placed on the inside of the circle *D*, would revolve just as fast as the one on the outside. This is illustrated at the dotted circles *C' C''*. It will be observed that the radial lines *v b* and *v b'*, drawn through the centers of the circles *D C C'*, will bear the same relation after *D* has made one fourth of a revolution as they do as shown in full lines at Fig. 2. In further explanation, let us suppose that the larger circle *D* has made such one fourth of a revolution, or, what is equivalent, the wheels or circles *C C'* have been swung around the center *v* in the direction of the arrow *a* until they occupy the position shown at the dotted outline *C' C''*. The wheels *C C'* have each made a full revolution. This proves that inside and outside gear based on the same pitch circles have equal angular velocities.



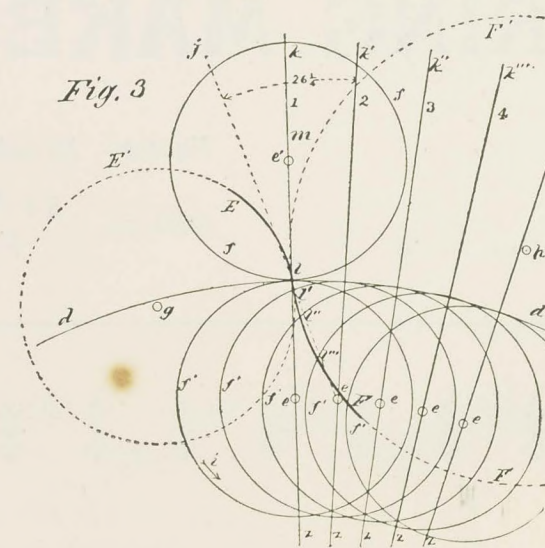
We are now in the proper shape to proceed with the graphic production of the hypocycloid. In making such drawings it is well to make them on the same scale as the mechanical device described on page 627, August, 1896, KEYSTONE, that is, one hundred times the size of the real wheels. The cut at Fig. 3 is one eighth the size of the circles we are employing, both in the large drawings and the mechanical device for producing epicycloidal curves. The ogee curve at *E l F*, Fig. 3, is composed of two simple arcs swept from the centers *g h*. These curves also represent the epicycloid produced by rolling the generating circle *f* on the pitch circle *d*, and the hypocycloid produced by rolling the generating circle *f'* on the inside of the pitch circle *d*.

In the large drawing a line $\frac{1}{80}$ " wide will cover the true cycloidal curves and also the simple curves from the centers *g* and *h*; consequently the line *E F*, as shown, represents three methods, that

is, the mechanical, the graphic, and the mathematical, each giving the same result within $\frac{1}{100}$ " on the large drawing. The center *h* is to a radius of 9.7", and is 2.84" outside of the pitch circle. The center *g* is to a radius of 5.04", and is .54" inside of the pitch circle *d*. In the graphic delineation of the hypocycloid we have adopted a plan different from the one employed and described on page 36, March, 1890, KEYSTONE, for delineating the addendum or ogive of that tooth, but really on the same principle that is embraced in the cut at Fig. 1.

A New Application of Angular Movement

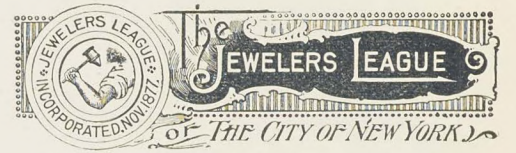
It will be remembered that the diameter of the generating circle *f*, Fig. 3, is one half the pitch diameter of a wheel of sixteen teeth of eighty-four diametrical pitch, magnified one hundred times. Now as far as computation goes, it makes no difference what the sizes are, as long as the ratio is maintained throughout the entire process. In the cut at Fig. 3 the generating circle *f'* is supposed to be rolled on the pitch circle *d* in the direction of the arrow *i*. The point of contact between the generating circle *f'* and the pitch circle *d* is at *l*. As *f* is rolled along on the pitch circle *d*, the contact point *l* on the circle *f'* moves away in a hypocycloidal



curve from the pitch line *d*. We have divided the pitch circle into five-degree spaces, and to designate these spaces have drawn the radial lines *z k* from a center at *z*, which is, for sake of space, omitted from the cut.

Now, as we have repeatedly shown, the angular motion of two wheels or revolving circles is in the ratio of their diameters; and as the diameters of the circles *d* and *f* are represented by somewhat lengthy decimals of an inch, we will dispense with them and choose the figures representing their relative pitch diameters—thus, the arc *d* represents the pitch circle of a wheel of forty-two teeth of eighty-four diametrical pitch, and the circle *f* is half the diameter of a wheel of sixteen teeth, hence the ratio of diameters is as forty-two to eight. Consequently if we make a statement in proportion, thus 8 : 42 :: 5 to the number of degrees of angular motion of the circle *f'*, while the circle *f* is rolled from one five-degree space on *d* to another. On working out the question we find that the arc moved through is $26\frac{1}{4}$ degrees. To locate the contact point *l'* on the circle *f*, we draw the line *e' f* at $26\frac{1}{4}$ degrees from the radial line *z k'*, as shown; and where this line intersects the circle *f'* is the second point of contact at *l'*. This process is repeated, adding $26\frac{1}{4}$ degrees for each movement of the generating wheel as it rolls along on the pitch circle. In this way we locate the point *l*. We set our dividers so that it will produce a circle passing through the greatest num-

ber of these points, and we have established the center *h*. How to so set the dividers is shown at page 36, March, 1890, KEYSTONE. It is not advisable to employ any more of the cycloid produced either graphically or by the cycloidal machine, than will absolutely be required for action of the tooth.



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BERNARD KARSCH, ... Of Bernard Karsch.
DAVID N. SMITH, ... Of Wm. Smith & Co.
170 Broadway, New York.

The regular monthly meeting of the executive committee of the Jewelers' League was held on Friday, October 9th. There were present Vice-Presidents Greason, Bowden and Bardel, Chairman Van Deventer, Messrs. Karsch, Street, Beacham and L. Stevens, Jr., secretary. Minutes of the previous meeting were read and approved. Eight requests for change of beneficiary were received and granted, and the following applicants were admitted to membership:

Bernard M. Kent, New York City, recommended by W. H. Salt and C. Savage; George C. Wilkins, Red Bluff, Cal., by C. Hadenfeldt and F. M. Welch; Eli C. Raber, Clifton, Arizona, by M. J. Egan and J. H. Purdy.

Upon motion the meeting adjourned. The next meeting will held November 6th.

"It is not in the compass of my power to suggest anything to improve *The Keystone*. Any one page of 'Workshop Notes' is worth the year's subscription. I can always find something to jot down that I can use to-morrow."—M. T. Hazlett, jeweler, Sheffield, Illinois.

What Is a Financier?

It is commonly understood that a financier is a man who is at the head of some great banking institution, or other enterprise in which money is handled by carload lots. This definition is not as comprehensive as it should be.

A financier is a person (not necessarily a man) who knows that the amount paid for board must be subtracted from the gross income received, and that the further expenditure of money for clothes, etc., must also come out of the gross earnings, and from nowhere else.

A man is a financier when he is able to figure out the fact that every dollar he spends for rum takes a dollar from the support of his wife and family.

A man is a financier when he sees that his employer gives the preference to clean, honest, healthy, sober men.

A man is a financier when he discovers that he can succeed better by attending strictly to the business he is hired to do than by trying to bulldoze his employer into doing that which may be impossible.

A man is a financier when he learns to do well what he is fitted to do, and stops trying to do things that are beyond him.

A man is a financier when he learns to spend less money than he earns, and at the same time to increase his earning capacity by increasing his usefulness.

A financier is a man who knows that the surest way to succeed is to deserve success.

A capitalist is any man who has saved enough of his earnings so that he could live for a time and still be independent in the event of any stoppage of his income. When a capitalist also happens to be a financier, he sometimes becomes rich.

—L. A. W. Bulletin.

DIAMONDS

RINGS
STUDS
LOCKETS
PENDANTS
SCARF PINS
LINK BUTTONS
MOUNTINGS OF ALL KINDS
MOUNTED DIAMONDS
 A COMPLETE STOCK
 FANCY STONE SET RINGS IN 14 K.
 AT POPULAR PRICES

JOB WORK QUICK
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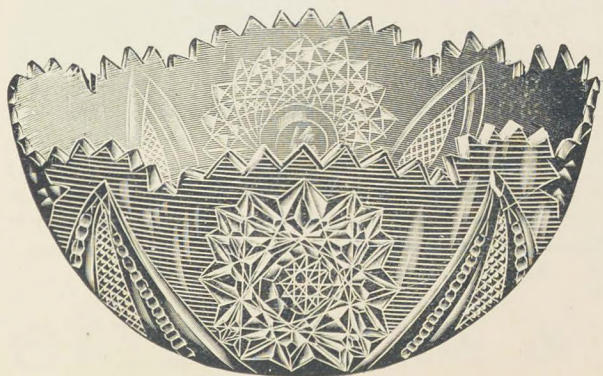
We Want Your Business

to thank a large number of the trade for letters of inquiry regarding our China and Cut Glass Novelties for **Jewelers' special trade**. Those who have favored us with orders have found our lines right "Up to Date," and **the prices right**.

Is Our Business—

that is, the Cut Glass, Fancy China and Pottery part of it—and these are lines we can sell you so you can make **a good profit** out of every one—that is what you are in business for, isn't it? You should have **Our New Cut Glass Catalogue**—write for it—**Free!**

If you have been "holding off," and have yet to place your order, **NOW IS THE TIME!** Come to the front and let **us** hear from you. Write us for all information you need, and by all means **GET OUR PRICES** on goods that for twenty-five years we have made our foremost specialty.



PITKIN & BROOKS, Importers,
 CHICAGO, ILLINOIS.

Among the Trade.

Alabama.

E. Lowinsohn has greatly improved his store in Birmingham.

R. E. Holman, Ozark, who has been in the jewelry business for fifteen years, has sold in that time over 1,400 watches, quite an achievement when we consider that he did not altogether limit his attention to the jewelry business. May he add many hundreds more to his record of sales.

Henry Robinson, Anniston, has undergone three months' treatment at the Franklin Infirmary of Osteopathy, Franklin, Ky., and is so far improved that he has gone home to attend to business. The treatment at this infirmary is peculiar in that neither the knife nor drugs are ever resorted to.

California.

Mensch & Mensch, Los Angeles, have been succeeded by G. A. Mensch.

Mr. Levy, of San Francisco, a partner in the firm of M. Lissner & Co., Los Angeles, spent a few days last month at the latter place on business.

C. L. Bannister, Los Angeles, recently removed into the Hollenbeck Hotel block.

L. Nordlinger, Los Angeles, has been East, purchasing his holiday stock.

Mr. Bartlett, a former jeweler of Los Angeles, was nominated as a member of the Board of Education of that city.

E. J. Barrett, Ukiah, has established himself in handsome new quarters in the old Law building.

Flassig & Ernsting is a new firm in San Diego. The firm is composed of Paul A. J. Flassig, a well known jeweler of San Diego, and C. W. Ernsting, of Cincinnati, O., who has also had many years' experience in that line of business. They are established in the store formerly occupied by M. German.

Rubottom & Farwell, Santa Ana, have dissolved by mutual consent. E. P. Farwell will continue the jewelry business.

Andrews & Wood, Modesto, have dissolved. Edwin E. Wood succeeds to the business.

Colorado.

P. F. O'Neill, Denver, recently erected a handsomely ornamented post and clock sign in front of his store.

Brush, the jeweler, Fort Morgan, has just refitted his store and put in a brand new line of goods.

Connecticut.

Knoek & Co., Hartford, had an auction sale recently, which was conducted by Auctioneer Col. St. Clair Fechner. The Colonel also made a sale of the I. G. Ising stock in Danbury. Mr. Ising was recently elected city clerk.

George C. Allis, Derby, has invented and applied for letters patent on a unique cribbage board. It is made of brass, plated with copper and then given a thick coating of nickel. It stands on four short legs, is beautifully designed and engraved in a high style of ornamentation.

District of Columbia.

W. C. Shaw & Co. have opened a handsome store at 1105 F Street, N. W., Washington, formerly occupied by C. H. Davidson. The stock and fixtures are entirely new, and attracted crowds of people on opening day, October 1st. Mr. Shaw was for many years associated with Harris & Shafer.

Harris & Shafer, Washington, are making improvements in their store on Pennsylvania Avenue.

Florida.

George B. Barker, Miami, has moved into the Brown Building.

Georgia.

Bates & Carson, of Harmony Grove, have dissolved partnership, Mr. Carson withdrawing. C. S. Bates will continue the business.

The Freeman Jewelry Co., Atlanta, have retired from business. The store at 25 Whitehall Street, with the stock and fixtures, was sold to the Marietta Trust and Banking Co., Marietta. The business will be closed out.

Indiana.

George Hay, of Attica, has gone to Colorado to seek for good health.

Jeweler Frank Haseltine, of Kokomo, is spending the present month on a hunting expedition up in the wilds of Wisconsin.

C. R. Smith & Co., of Huntington, offered a gold watch worth \$25 for the nearest guess at the vote of the State in the national election, at five cents a guess.

Herman Lodde, of Lafayette, after doing business for fifteen years in the same location, has moved into a new store, which is a handsome modern affair, strictly up to date in every particular. His friends, the traveling men, tell us Mr. Lodde's new establishment is one of the real pretty jewelry establishments of that section of the country.

Illinois.

W. F. Poole has opened a store in St. Anne.

C. H. Coles has opened a store in Sandwich.

Fred. Hosser, Springfield, has moved from the Y. M. C. A. Building to 418 Adams Street.

The announcement in our last issue that Shumway & Carpenter, Rockford, had sold out, was an error. They are doing a prosperous business, and have no intentions of discontinuing it.

The old Peoria Watch Company factory building, occupied by the Parsons Horological Institute and the Ide Bicycle Company, was totally destroyed by fire a few weeks ago. Mr. Parsons estimates the loss to the school property at \$20,000 in excess of insurance. The fire caused practically no interruption to the studies or inconvenience to the pupils. The dormitory building, recently completed, will be occupied as a school until a new building is erected. The students were furnished with new tools, benches, etc., and the course of instruction was proceeded with as usual.

E. I. Camm, of Monmouth, has moved into a new store.

Duane G. Berry, Carthage, is a liberal and excellent advertiser, and is prospering accordingly.

Henry M. Abenstein, who recently located at DeKalb, has removed his jewelry stock to Escanaba, Mich., his former home, and has again embarked in business in that town.

Fey Bros., who formerly conducted a jewelry business in Peoria, but who sold out several years ago to embark in the hotel business, will open up a handsome jewelry store in Peoria early in the present month. It will be entirely new throughout, and modern in every way.

Iowa.

J. Warner has opened a store in Leon.

George J. Allen has begun business as a jeweler and optician, in Marshalltown.

Milo L. Kremer, of West Union, has opened a jewelry and optical goods store in Ossian.

Ankeny & Carmichael, of Corning, were burned out the middle of last month. They saved a good part of their stock, though somewhat damaged.

Kansas.

C. H. Morrison, Topeka, has enlarged his quarters to include the entire store at 505 Kansas Avenue, and installed six new wall cabinet cases and several floor cases.

J. D. Russell, Douglass, has moved to Winfield.

Kentucky.

C. E. Smith, Eminence, has moved to Middleport, Ohio.

J. D. Yonts, Greenville, deceased, has been succeeded by Jarvis & Williams.

Quarles Bros., of Guthrie, have opened a branch store at Clarksville, Tenn.

Maine.

Charles Irving is preparing a store in Belfast.

The Boston Clock Co. have organized at Kittery, for the purpose of carrying on the business of manufacturing clocks and other articles, with \$50,000 capital stock, of which \$300 is paid in. The officers are: President, H. W. Bates, New York; treasurer, Walter F. Baker, Boston.

Vincent L. Hunt, formerly with H. S. Moor, Rockland, has begun business as a repairer in that town.

Ira Berry, Jr., 48 Exchange Street, Portland, has moved to better quarters on the same street.

Maryland.

William J. Payne, Elkton, died September 25th. He was an enterprising jeweler of acknowledged integrity, and his sudden demise was a shock to his host of friends. He was unusually successful in business, and built, some time ago, the Payne Block, which contains three stores, a photograph gallery and home.

At a recent bicycle parade in Chestertown, the prize for the most beautifully decorated wheel was won by Jeweler J. H. Sides. Mr. Sides' wheel was the most elaborately decorated of any in the parade and was resplendent in pearls and other precious stones, while more than one hun-

dred yards of dainty ribbon was used in bows and other ornamentations. An umbrella and pendant lights added greatly to the beauty of the general effect.

Massachusetts.

George Carey will shortly open a store in Haverhill.

Joseph Galant will shortly open a repair shop in Lowell.

George A. Collins & Co., Salem, have been forced by the exigencies of a rapidly growing business to make an addition to the rear of their store. The new part is to be used for manufacturing and repairing jewelry, silverware, clocks, etc., and the room formerly occupied by this department will be used for the display of goods. The firm have also fitted up, in the most approved style, a special room for testing the eyes.

Geo. H. Wood, Lowell, is building an addition to his store. He will devote a special department to cut glass.

Frank E. Davis, Northampton, will move into a new store at the corner of the Columbian Block.

The firm of Barrett & Voignier, Lenox, was dissolved by mutual consent October 1, 1896, and the business will be conducted by Ernest J. Voignier at the old stand, Clifford's Block.

August F. Loyer, of Rockland, has opened a store in North Abington.

H. H. Heath has begun business in the Randall Block, South Braintree.

E. W. Cushman, who recently discontinued business, has again opened a store at 688 Main Street, Waltham.

Michigan.

U. B. Williams, of Lowell, has furnished that town with an electrical clock made by himself. It has two dials, one of which shows standard time and the other local time.

Minnesota.

F. B. Searle has opened a store in Milaca.

Lincoln Sheridan, of St. Charles, celebrated the tenth anniversary of the beginning of his business career by offering a discount of twenty-five per cent. on all sales for the day.

Leo Blumenkranz, 207 Washington Avenue S., Minneapolis, has started a branch store at 211 Nicollet Avenue.

The marriage was recently announced in Montreal, Canada, of Miss Edith Yerrington Woodcock, daughter of W. F. A. Woodcock, of Winona, this State, to Mr. John Sebastian Hiller, an Englishman of wealth and social prominence. Mrs. Hiller is a young lady of many accomplishments, one of which is a cultivated voice of singular power. Mr. Hiller's home is in England but he will hereafter reside in America.

W. W. Arms, formerly with E. H. Abbott, of Minneapolis, has established a jewelry department in the drug store of W. M. James, Breckenridge.

E. Simonton has sold his store in Sauk Center to H. F. Alden, who will continue the business.

Lucien Diacon, Chaska, received a diploma from the Chaska Agricultural Fair for his handsome display at the fair.

Cliff Brush has opened a store in Eyota.

Carl Brown has begun business in Appleton.

Otto C. Rettesloff, of Winnebago City, and Mr. Slider, of St. Peter, will open a branch store in Fairmount.

Rudolph Thierstein, formerly with Crane Brothers, of Lake City, has purchased and will continue the business of M. Morrison in Winona.

Mississippi.

C. I. Stein, of Greenwood, has moved into more spacious and better equipped quarters.

Missouri.

James C. Cottrell, Lewiston, has moved to Quincy, Ill.

The regular monthly meeting of the Board of Directors of the Missouri Retail Jewelers' Association was held in St. Louis, October 14th.

C. W. Crosby & Co., Brookfield, had two very pretty and novel window displays before election. In one window was the draped portrait of Mr. Bryan in a silver frame, and below on the window floor sixteen silver chains in a circle and one gold watch in the center, representing the phrase "16 to 1." Along each side of this window were placed clocks with the hands at 16 minutes to 1 o'clock. In the other window was the draped portrait of Mr. McKinley in a gold frame, and in the bottom of the window, made out of McKinley buttons, were the letters G. O. P.

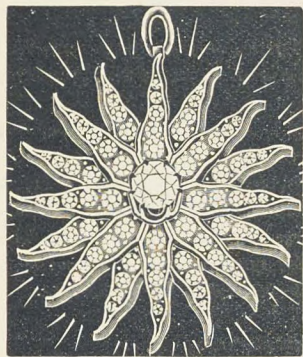
Davis & Mason have opened a store in Neosho.

(Continued on page 860.)

We sent you our New 1897 Catalogue.

HAVE YOU RECEIVED IT? ⁸⁵⁹ If not, please advise us.

All prices quoted are according to Keystone Key, with our usual cash discount.



No. 788 . . . \$360.00
With 65 fine diamonds, weighing 2½ carats.
No. 789 . . . \$180.00
With 1 fine diamond, ¾ carat,
and 56 fine real pearls.
14 K. polished mounting.

Our Diamond Department.

GOODS AND PRICES
RIGHT.

A large
assortment of
Staples
and Novelties.

See our
1897 Catalogue,
pages 391 to 400
inclusive.



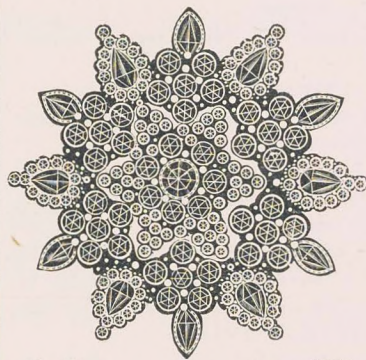
No. 3922 . . . \$58.50
Plain Polished and Engraved.
5 Real Diamonds, 2 Emeralds and 1 Ruby.

Our Watch Department.

THE BEST LINE
EVER SHOWN.

CASES,
MOVEMENTS and
WATCHES
in all qualities
and sizes.

See our
1897 Catalogue,
pages 302 to 390
inclusive.



No. 181 . . . \$9.00
Fine Cut Garnets.

Imported Jewelry Department.

Fine Bohemian
Garnet Goods.
Genuine
Amber Jewelry.
Real
Coral Necklaces,
Rosaries, etc.

See our
1897 Catalogue,
pages 461 to 465
inclusive.



No. 471 . . . \$3.50
½ Gold Filled, Real Blood Stone.
(H. D. M. & Co.)

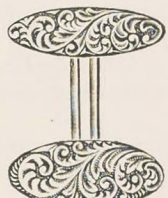
Chain and Jewelry Department.

Complete in every particular.

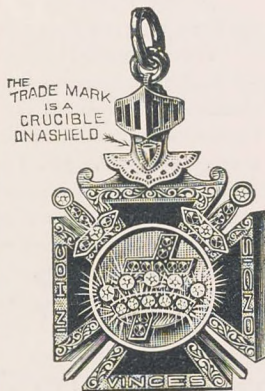
PRICES ALWAYS THE LOWEST.

Quality warranted as represented.

See our
1897 Catalogue,
pages 402 to 548
inclusive.



No. 1355, 14 K. \$8.50
Polished and Carved.



No. 10 . . . \$105.00
5 Genuine Brilliants in Crown,
9 Rose Diamonds, 17 Rose
Garnets, Solid 14 K. Gold.

Emblem Department.

Rings, Charms, Pins, Badges,
Buttons, etc.

The best line ever shown.

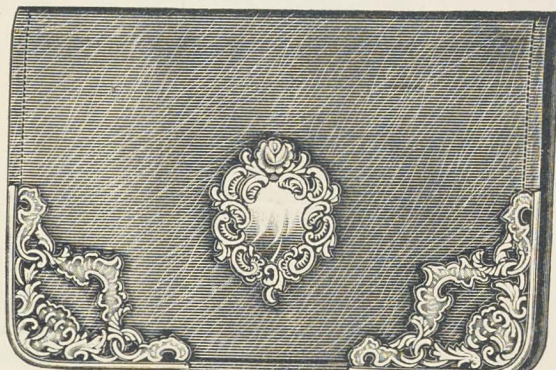
See our
1897 Catalogue,
pages 493, and 513 to 535
inclusive.



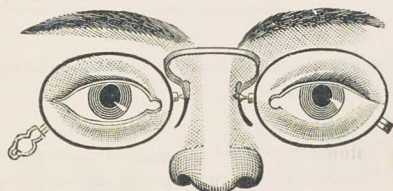
No. 229. Gold . . . \$8.25
No. 230. Gold Filled 2.25
Royal League,
Enameled, Plain Back.

Oak Boxes, Leather Goods, Show Cases, Trays, Jewelry Boxes, etc.

See our 1897 Book,
pages 116 to 126 inclusive.
You can save money
by ordering from us.

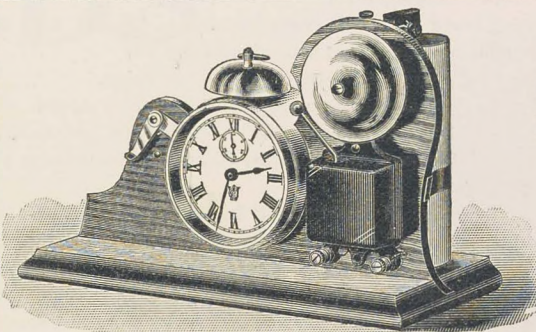


No. 1725. Card Case.
Imported White Crushed Glazed Morocco, same
Leather-Lined, size, 4½ x 3½ inches. . . \$5.75



Optical Department.

See pages 3 to 44, our 1897 Book.
We can save you money on this line.
Goods and prices right.
Special attention paid to Prescription
and Job Work.



"GET UP" ELECTRIC ALARM CLOCK.
Made in Antique Oak.
Height, 7¾ inches; length, 12 inches; width, 8½ inches.
No. 1418. Each . . . \$5.70

Our Clock Department.

Now better than
ever.

We show only the
best sellers.

See our Catalogue,
pages 45 to 102
inclusive.

Sterling Silver and Silver-Plated Hollow Ware and Cut Glass Ware.

Pages 174 to 253. See index, page 127.

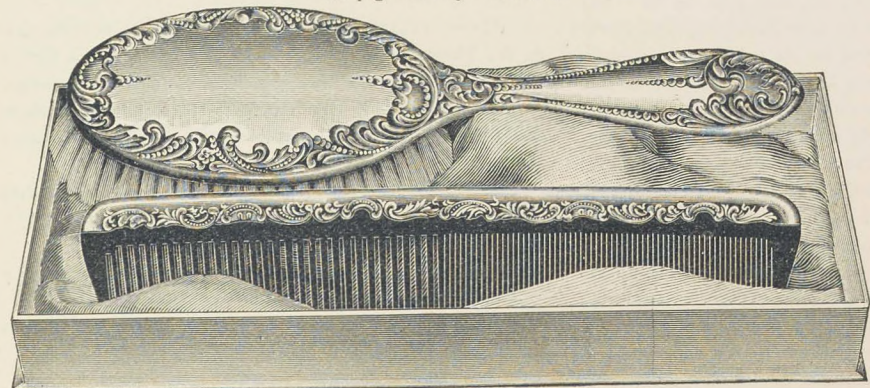
IT WILL PAY YOU TO COMPARE OUR
PRICES WITH OTHERS.



No. 6089. Embossed Puff Box . . . \$5.50
Gold-Lined, with Puff.
Wilcox Silver Plate Co.

THE BEST LINE OF NOVELTIES EVER SHOWN.

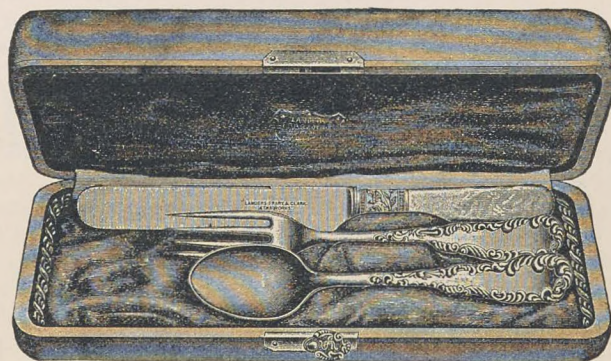
See pages 268 to 301 inclusive.



No. 26. Brush and Comb Set, complete . . . \$9.50
Sterling Silver Mounted Brush and Comb, in Silk-Lined Paper Box.
No. 27. Brush only . . . \$7.50 No. 28. Comb only . . . \$1.75

COMPLETE LINE OF FLAT WARE.

Silver-Plated, pages 127 to 173 Sterling Silver, pages 254 to 267.



PEARL HANDLE KNIFE IN KID CASE.
No. 2915. A1, Extra Plated Fork and Spoon, German Silver Ferrule on Knife, \$5.75.
Made by L. F. & C.

ALL PRICES QUOTED ARE ACCORDING TO KEYSTONE KEY, WITH OUR USUAL CASH DISCOUNTS.

Wishing you a prosperous trade, we are, yours truly,

OTTO YOUNG & CO., 149 TO 153 STATE STREET, CHICAGO, ILL.

Among the Trade.

(Continued from page 858.)

Montana.

E. Mayer & Co., Butte City, have dissolved partnership.

Nebraska.

Jewelers over the State complain that watches are now the slowest selling articles in their stock.

John Rudd, the North Sixteenth Street jeweler, of Omaha, has moved into more desirable and pleasant quarters opposite the Boston store.

F. H. Small, for six years watchmaker with F. B. Harris, of Lincoln, has recently entered the employ of F. J. Hooper, Victor, Colo., which, he writes, is now the greatest gold mining camp in the world.

Fred. Evans, who recently finished a seven years' apprenticeship with Jeweler George Arkwright, of Beatrice, is now with F. H. Michelson, of Grand Island.

J. H. Alden, a former well-known Nebraska jeweler, for years located at Beatrice, has been visiting his old stamping ground the past month.

W. A. Watson, late of Beatrice, is doing well at Spokane, Wash.

Corn is very plentiful and very good in Nebraska, and, though low in price, is on the rise; likewise wheat.

New Hampshire.

E. E. Stratton, Hinsdale, is preparing to move into the Stebbins Block.

New Jersey.

Francis N. Piaget, of Montclair, and August Henke have formed a partnership under the style of Francis N. Piaget & Co.

New Mexico.

H. E. Fox, Albuquerque, official watch inspector for the Atlantic and Pacific Railroad, recently returned from an inspection trip over the road.

George Turner, Detroit, Mich., has moved to Albuquerque and opened a jewelry and stationery store there.

New York.

F. W. Colwell is redecorating and refitting his store in Matteawan.

John J. Pearson, formerly a jeweler of Saranac Lake, has moved to Wheeling, W. Va., where he intends to open in the same business.

C. W. Bolton, Canton, has moved his store into the Ames Block.

Julius Lowe, of Mount Vernon, will shortly move into the new store he has built at 40 Mount Vernon Avenue.

Geo. P. Cary, Coventry, has moved to Harpersville.

Henry F. Adams and Charles F. Marsh have begun business in partnership in Dunkirk.

Augustus Haskins retired from the jewelry business which he carried on for some time in Waterloo, and has accepted a position in Johnsbury, Vt.

C. J. Wells, Utica, has leased the store, 4 Liberty Street, which will be merged into the store now occupied by him. A large plate-glass front will be one of the features of the enlarged store.

A. A. Wilcox has purchased the stock and fixtures formerly owned by A. J. Watson, 403 Chenango Street, Binghamton.

A. E. Prescott, North Creek, has moved into other quarters.

T. Goodwin, of Orchard Park, has opened a store in Holland.

Walter Ware, of Waverly, has been to New York, purchasing holiday goods.

Saxton & Van Nort, who last spring moved from Cooperstown to Oneonta, have dissolved partnership. G. L. Van Nort will continue the business. L. E. Saxton will resume business as a watch repairer in Cooperstown.

The jewelry store of Koetch & Fowler, North Tonawanda, was burned out a few weeks ago.

North Carolina.

Geo. E. Bisanar is a new jeweler in Hickory.

Braswell & Houston have opened a jewelry store in Kinston.

Robert L. Moore, Statesville, has been awarded the Wedderburn prize of \$150 for his invention of an improved electric push button. Mr. Moore, who is somewhat of a mechanical genius, says of himself: "I was born on February 7, 1866, and lived on a farm until I was twenty years of age, when I took up work at my present trade. When I

was very young—in fact, as long ago as I can remember—I often undertook to construct machinery, and manifested a great interest in all kinds of mechanical devices. At that time I had no opportunity to learn a trade, as my parents were not able to assist me. At about the age of eighteen I began trying to repair watches and clocks, and in two or three years I found I could do almost any kind of repairing. I had received no instructions at all, but later I took a course in a horological school and optical college, from which I received much benefit."

Ohio.

Baker & Moulton, Shelby, have been succeeded by Graves, Moulton & Co.

Jeweler Judd Williams, of Urbana, is out again and attending to business after a severe case of sickness.

F. Shell, of Xenia, has recently moved into a new store located in the Steele Block. The new establishment is said to be tasty, attractive and modern—in every way a credit to Mr. Shell and his town.

W. G. Grottendick, of Xenia, was recently married.

Jeweler Pickering, of Pickering & Jelley, Mansfield, has lately returned from a health trip up in Michigan.

Walter Deuble, of Canton, is doing a fine trade with his McKinley souvenir spoons. There has been a good demand for them among the big crowds that have flocked to Canton for the past three months, several thousand of them having been sold. Mr. Deuble has been more fortunate than most jewelers the present season, as the political campaign has brought him a mighty fine business, instead of killing trade, as it has done with a great number of his tradesmen all over the country.

The Baldwin Co., formerly of Columbus, has moved to Mansfield, where they have a good store, a good location and excellent prospects.

A. Shibley, of Wooster, who has been confined to his home for some time by illness, is now able to be about business again.

Wm. Wertz, Toledo, who started in business for himself in July, is meeting with most encouraging success.

Oregon.

W. & C. Palmer have purchased the jewelry business of Mrs. J. B. Gardner, Baker City.

Pennsylvania.

B. G. Palmer has recently started in the jewelry business in Cambridgeboro.

Edward Kolb will begin business as Edward Kolb & Brother in Williamsport about November 1st.

C. L. Simpson has begun business in Sayre.

A. H. Sensenig has opened a repair shop in Akron.

Mr. Murphy, manager for J. Z. Simpson before Mr. Simpson's removal to Blairsville, Pa., has begun business at Derry Station.

The store of Rothstein & Lippman Bros., 516 Main Street, Johnstown, was damaged by fire on the night of Oct. 13th. The fire started on the second floor of the building in which the store is located.

E. J. Giering has opened a jewelry store in South Bethlehem.

Brennan & Davis, Bradford, who contemplate retiring from the jewelry business, are holding an auction sale, which is being conducted by Col. St. Clair Fechner.

Thos. J. Apryle, North Wales, is meeting with encouraging success. Until a year and a half ago he worked for A. H. Kennedy, Philadelphia, and later in the clock and art goods department of Gimble Bros', big department store, same city. In June last he started a repair shop in North Wales, and his success has been such that he proposes to put in a stock of goods this fall.

Charles Terheyden lately bought out the entire plant and stock of the late firm of Heckel, Bieler & Co., Pittsburg.

Morck Brothers, Warren, are enlarging their store by removing a stairway, and are putting in a new steel ceiling.

Alfred Schmick, Emaus, is renovating his new building on Main Street, and expects to have the work on the house finished by November 1st. He expects to be located in his new quarters before the new year.

Five watches were recently taken from a man who was arrested in Altoona and sentenced to imprisonment. No owner for the watches has as yet been found. They are described as follows: Open-face gold watch, Waltham movement 3,592,777, case 296,280. Small gold hunting case, Waltham movement 4,147,288, case 275,947. Large gold hunting case, Trenton movement 426,455, case 645,849. Silver open-face, Ohio movement 952,406, case 1,692,878. Hunting case silverine, movement Swiss, case 7,857.

H. M. Rebert, York, has added to his store an extension to be used as a workroom.

Edward Preiss, of Pittsburg, has opened a store in Homestead.

E. C. Bechtold, of Pittston, for many years with W. F. Staley, has opened a jewelry store at 63 N. Main Street, Pittston.

H. M. Norton, Corry, is away on a three weeks' hunting trip in Michigan.

Among recent orders for badges received by Heeren Bros. & Co., Pittsburg, were an order for 2,000 Innes badges—a medallion of the famous bandmaster—for the St. Louis exposition, and an order for 1,000 oxidized silver badges for the firemen's convention to be held at Johnstown, Pa.

South Dakota.

Harry Dodge and E. Steuerwald have consolidated their establishments in Brookings, and will continue business in partnership as Dodge & Steuerwald.

Tennessee.

C. A. Verity, Harriman, has been succeeded by E. W. Verity & Son.

Quarreles Bros., formerly of Guthrie, Ky., have opened a new store in Clarksville.

Texas.

Henry Austin has opened a new jewelry store in Cameron.

Hendley & Cameron, Vernon, have dissolved partnership.

Al. Hickman, Denton, has been succeeded by Robert H. Marshall.

Wilkinson, Burgower & Co., Denison, have dissolved partnership, G. Burgower withdrawing. C. A. Wilkinson will continue the business as the Wilkinson Jewelry Company.

C. B. Pittman has again embarked in the jewelry business at Ennis, where he has just opened up with a fine new stock.

Ben. M. Hammond, the proprietor of the Bell Jewelry Co., San Antonio, who purchased the business from Bell Bros., January 1st, has since found it necessary to enlarge his store. He put in a new front some time ago, and is now adding a number of glass cases for the display of goods. When the improvements are finished his store will be among the prettiest and best equipped in that section. Mr. Hammond pronounces THE KEYSTONE the best trade paper he ever saw, and every number worth a dollar.

Utah.

C. C. Berninger has reopened his jewelry store in Ogden.

Vermont.

C. D. Lovejoy has begun business in Woodstock.

M. C. Beckley, Marshfield, has moved his business to his new block at the head of Railroad Street.

West Virginia.

The business of Jacob W. Grubb, Wheeling, is to be removed from Twelfth and Market Streets to 1306 Market Street. The firm is one of the oldest business houses in Wheeling, having been started in 1840 by J. T. Scott, of New York. It passed into the hands of Mr. Grubb in 1877.

Wisconsin.

M. E. Starr, New Richmond, has moved into another store.

Those sending out mail are requested to note that A. W. Thoma is no longer at Kaukauna. He is now a member of the firm of Thoma & Lenahan, Mineral Springs.

Zinn Brothers, Milwaukee, secured from the Republican State Committee a contract to furnish 100,000 campaign badges.

O. L. Rosenkrans, of O. L. Rosenkrans & Thatcher Company, Milwaukee, was nominated for the State Legislature by the Republicans of his district.

Smith & Gamm, Madison, have been compelled by growing business to once again enlarge their store.

Henry Fisher, of Jefferson, has put a new front in his store and otherwise added to its attractiveness.

"Enclosed please find one dollar, for which please renew my subscription to The Keystone for one year, as I find it to be a benefactor to all jewelers and watchmakers who are anxious to progress and be up to date, for experience has taught me that it is worth over ten times its cost in one year to many watchmakers."—E. B. Culpepper, jeweler, Buchanan, Tennessee.

Our Lorgnette Chains

are trimmed with gold slides, set with beautiful opals, diamonds, pearls, turquoise and rubies.

Our New Tag

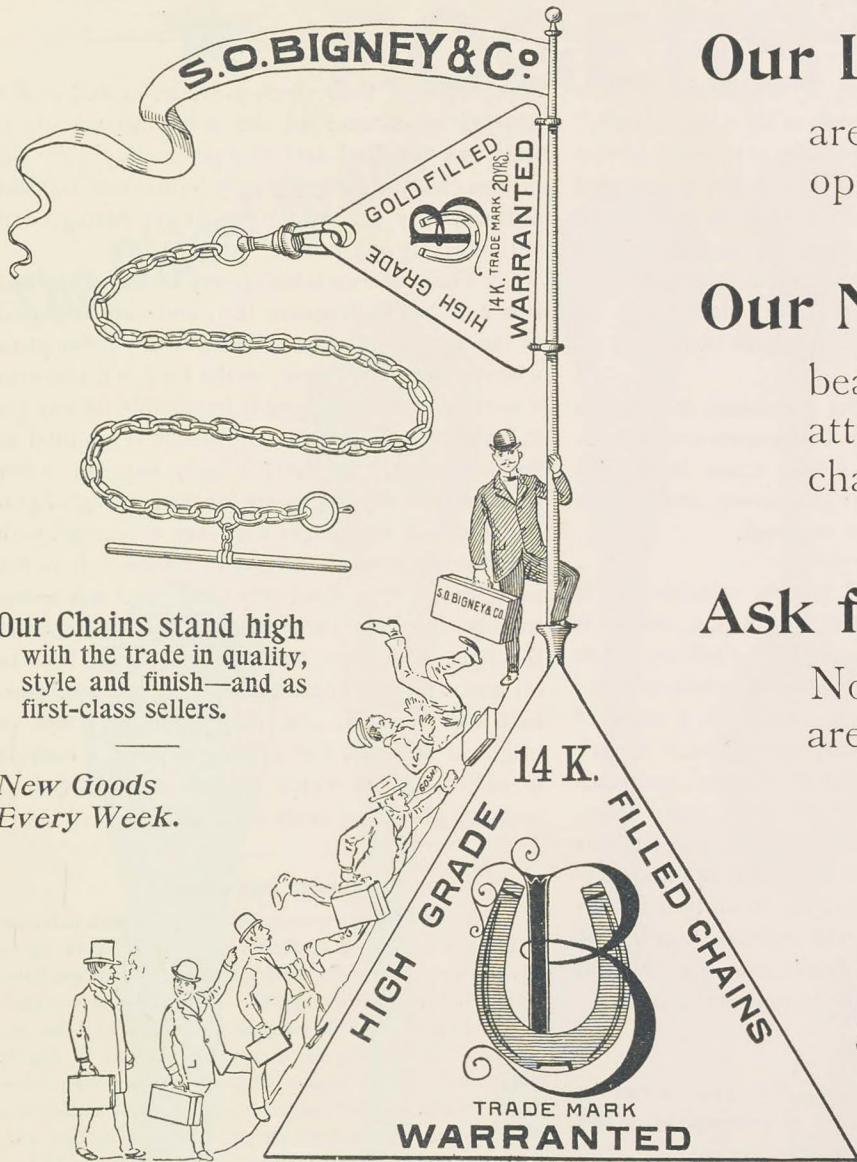
bearing our trade-mark, a fac-simile of which is attached to flagstaff, will be found on all gents' chains shipped from our factory after Oct. 1st.

Ask for These Chains.

No stock is complete without them. The styles are unique and attractive.

Our Chains stand high with the trade in quality, style and finish—and as first-class sellers.

New Goods Every Week.



S. O. BIGNEY & Co.

Manufacturers of High-Grade Goods,
ATTLEBORO, MASS.

DIAMONDS



Does your Diamond stock need replenishing? or have you an order for some article you haven't in stock?

Write to us, and let us help you out.

We are Direct Importers and Cutters of Diamonds, and sell at lowest prices.

Our Fall stock of Loose and Mounted goods is now complete for your inspection, and we want a share of your trade.

All our Mounted stock is of the very best workmanship and the latest styles.

Selection packages sent upon receipt of satisfactory references.

CROSS & BEGUELIN,

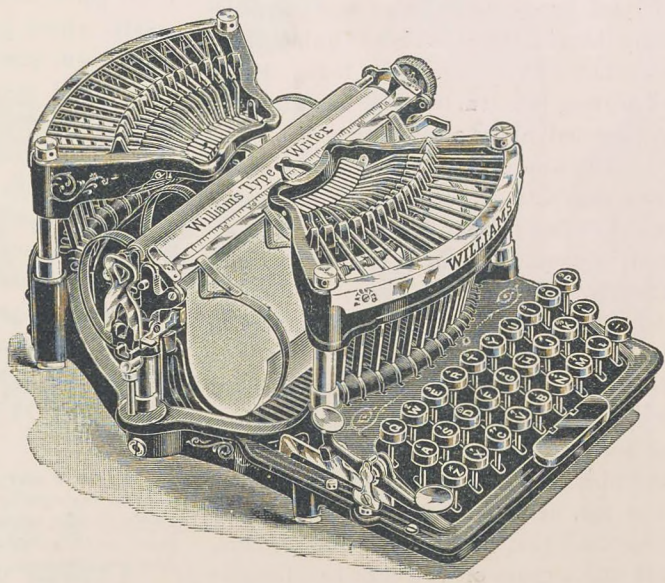
43 Rue Meslay, PARIS.

17 Maiden Lane, NEW YORK.



DIAMONDS

"UNCLE SAM" KNOWS a good thing when he sees it.



THE WILLIAMS'

proposal to furnish the United States Agricultural Department with twenty-five Williams Typewriters has recently been accepted, and **STRICTLY ON MERIT.** No cut prices.

*Visible Writing, Direct Inking, Ease of Manipulation,
Economy of Maintenance, and Durability.*

GOOD AGENTS WANTED IN UNOCCUPIED TERRITORY.

ILLUSTRATED CATALOGUE ON APPLICATION.

THE WILLIAMS TYPEWRITER CO.

253 Broadway, New York.

LONDON—104 Newgate Street.
CHICAGO—152 La Salle Street.
BOSTON—147 Washington Street.
SAN FRANCISCO—508 Clay Street.
PHILADELPHIA—1019 Market Street.

MONTREAL—200 Mountain Street.
ATLANTA—15 Peachtree Street.
CLEVELAND—23 Euclid Avenue.
DALLAS—283 Main Street.
DENVER—321 Sixteenth Street.

Musings of a Country Jeweler.

I rejoice to see that at last your leading advertisers have adopted the Keystone Key method of publishing prices, and trust that all your advertisers will soon see that it is to their own interest and the interest of the trade to adopt this plan.

Your editorial and ———'s letter on guaranteeing jewelry alone suggest thoughts enough to fill a page. It is the most perplexing thing we have to contend with. First, of course, a guarantee on a chain or case is utterly worthless unless the name of a responsible firm is printed thereon. But even then, in case of a chain, what is it good for? How can we warrant any chain, spoon, etc., to wear a specified period of time or "to give satisfaction"? Can we date or keep a record of every piece of jewelry, knife, fork and spoon we sell? Preposterous! A chain that for one person will wear well, will wear off, for another, in a few months.

Suppose we warrant a chain or a spoon for five years, and it comes back after seven years, worn off, and the party insists it was bought "just three years ago." Or suppose we sell an article, and it is strictly as represented and wears well; but after a few years the buyer takes a notion to have a new one or his cash. A sheet of sand or emery paper only costs a cent, and with this he can easily scour the gold off, use the article a short time after, until every trace of the fraud disappears, then return the article and demand his money. What can we do about it? The world is full of rascals, who freely resort to any scheme to extort cash.

I know I was swindled just in this manner over a dozen years ago. I sold a pair of hollow band best rolled-plate bracelets, and warranted them to wear as good as solid gold for years. Soon afterward these bands went out of style, and the man brought them in, the entire inside lining which comes in contact with the wrist pure brass. Every vestige of plating was removed. I was sure they had been subjected to the sandpaper process; the more so because sandpaper was one of the essentials of this man's trade, he being a carpenter. What could I do but to offer a new pair, which he refused and demanded his money, and, to avoid further trouble, blackguarding, etc., got it. I humbly admitted I myself had been swindled in the goods.

Another bad feature of the matter is, that years after the sale we cannot trace the jobber who sold them nor the manufacturer who made them. Return an imperfect article to a jobber, and, nine times out of ten, he will insist that he never sold it, never handled that make, etc. Furthermore, if we could date a chain on swivel or bar, these in course of years may lose off; and still we are entirely at the mercy of a scheming customer. The only safeguard we have in the matter is to never warrant any article the maker of which is unknown to us. Then when a lying cuss comes in and wants to impose on us, politely refer him to the city marshal or the police.

I never warrant anything "to give satisfaction." This, of all, is the worst thing to do. This implies even much more than a guarantee on the goods; it even guarantees the caprices, whims and honesty of the purchaser. Don't you see? He has but to say, "It does not give satisfaction," in one year or after ten years of use; whether goods have worn well or not, he can, at any time, demand his money, and we have not a shadow of right in justice or equity to refuse it.

I simply *recommend*, if in conformity with my opinion, unknown goods to be "well plated," "will wear well," "as good as any in the market at the price," etc.; but never, unless guaranteed to me by well-known manufacturers for certain periods, do I take chances on the honesty or dishonesty of customers, or state a specified time. It would be impossible to trace date of sale on most of such goods, and if we took them back all would be a total loss.

Moral: Confine your purchases, as near as possible, to the product of best-known and reliable firms, who, should an article come back, will cheerfully make good their guarantees; and warrant nothing that cannot so be returned.

Little can be added to your valuable article on the merits of a cheerful disposition, unless it be the merits of patience. Many a halting buyer is moved also by the patience and indefatigability exhibited by the salesman. After all, a sense of justice lies dormant in every brain, and if a clerk manifests an unusual degree of alacrity, and takes great pains to show his wares, takes down from, or out of, the cases dozens of articles, suggests this and that, not only what is called for, but innumerable other things, and never tires, this often awakens a sense of obligation in the customer—or maybe it is hypnotic influence—which causes him or her to make a purchase principally to reward the salesman for his efforts. Try it.

When looking around for new wares to brighten up the old stock, it is well for the dealer to obtain, if possible, the sole agency for such goods in his own city or town. For instance, I have lately purchased from one of the firms advertising in THE KEYSTONE a small, but elegant, line of hand-decorated china, and from another firm a small assortment of art pottery, mostly their nicer goods—avoiding trinkets or such cheaper goods, which probably may be found in toy or department stores. Besides being very attractive and new, I have them alone, and hence do not come in competition with others. I can thus obtain fair prices for them, without which we had better keep "hands off." I believe it is absolutely necessary, though our stock may already be too large for the sum of our trade, to periodically add at least a few new and attractive goods, for the success of the store. And stock of intrinsic merit and value, like a fine piece of pottery, cut glass or Limoges ware, which does not fade nor go out of style, is always a safe investment. CLIO.

"I need every dollar I have, but to repair watches without the regular visits of The Keystone, the best jewelry paper in the world, would seem like living in the backwoods, a thousand miles from civilization."—L. J. Miller, jeweler, Ephrata, Pennsylvania.

Cheap Store Lighting.

L. Schaefer, Shakopee, Minn., recently placed in his store a Buffington acetylene gas generator, by which he generates this gas for lighting purposes. In reference to the generator Mr. Schaefer writes us:

"I am so highly pleased with its operation that I feel it my duty to bring it more prominently before the readers of THE KEYSTONE, many of whom, no doubt, will be anxious to know what it is. To those who feel interested and will take the liberty to write me in regard to it, I will cheerfully give full particulars.

"It will commend itself to those living outside of gas and electric light districts as an advanced method of lighting, which will improve the

appearance of their stock-in-trade, as well as the general appearance of the store throughout, at least one hundred and fifty per cent. This gas gives a clear, white and steady light—much unlike ordinary city gas, which is always flaring—and with scarcely any heat.

"The generator takes up very little space, about two and one-half square feet, and can be placed in the back room of your store or any other place where it does not freeze, as the tank is made with a water seal, thus making it impossible for any gas to leak out. No special knowledge is required in the operation. In fact, it only requires a few minutes each day to prepare for the evening's light, and there is no danger whatever connected with the manufacture of the gas or its use. It is not expensive, and is absolutely clean, and much less troublesome than kerosene; and the difference in the light is so great that I would not go back to oil lamps for any consideration. I use four one-half foot burners, and they make my store as bright as sunlight, and at present price of carbide of calcium, from which the gas is produced, it costs me about five cents per night."

Is Credit Too Cheap?

Not very long ago a manufacturer failed, with liabilities of \$65,000 and assets of \$2000. A year or more ago a jobber who had never put but \$35,000 into his business failed for nearly half a million dollars. A retail concern, capitalized for \$25,000, recently assigned with liabilities thrice that amount. These may be exceptions, but only in degree. Every month shows failures where the assets are far below the liabilities. "How does it happen," asks the *Boot and Shoe Recorder*, "that these people can get so far into debt, with so little capital to guarantee its payment?" The answer is simple. Credit is too cheap. The competition for business, nowadays, is so fierce that merchants and manufacturers are willing to run extraordinary risks, to give remarkable inducements to sell goods. Discounts have been enlarged, time of dating extended, and other grave abuses have crept into business through the mighty struggle for trade. As a consequence, it has become possible for a man with but little capital, but with a great deal of effrontery, to gain for himself a credit far beyond his deserts. By clever management some men who do this succeed in building up large establishments, and carry prodigious trades. There are instances well known in the trade of people who have started in this manner, who have at last reached a point where they are entirely good for all the credit they desire, yes, who have grown wealthy through this means. But where one such case can be quoted, there are a hundred where the debtors have ended their career by a failure quite disproportionate in magnitude to the capital actually invested.

Where will it end? It is hard to tell, for, notwithstanding the signs by the way and the wrecks by the roadside, enterprising (?) men will drive straight over the same road, using their utmost endeavors to do a big business, taking risks and giving credits at which their predecessors of ten or twenty years ago would stand aghast.

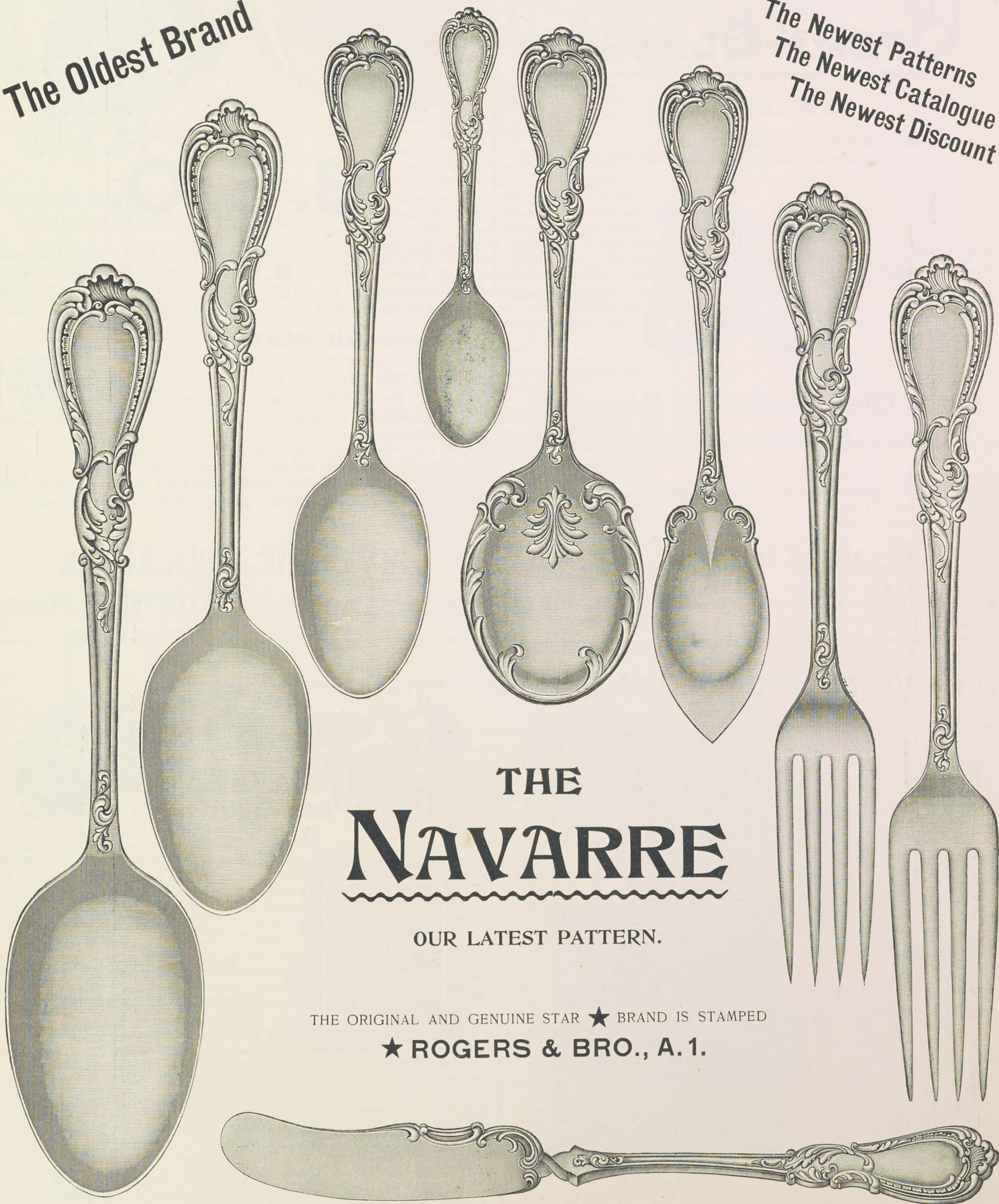
There is a commendable ambition on the part of the business man to day to do a big business. In fact, things have come to so fine a point that unless a big business is done, very little or no profit can result. But is it commendable to push business to such an extent that you will give unlimited credit where your competitor has denied it? Is it good business policy to force goods upon your debtor, for the sake of showing larger sales at the end of a year? In the olden times, the buyer came to market. He asked for the goods. Possibly he asked for credit. To-day the man with five thousand dollars cash doesn't have to ask for goods. He has to refuse three times as much as he accepts. The traveling salesman go to him—visit him at his own store. He has credit forced upon him, and if he be dishonest—if he be even heedless—he is likely to find twice as many goods in his store as his capital will warrant him in buying.

We are on the eve of a revival of business. That is what most sagacious men are saying, and we believe them. The late fall will show a business activity far ahead of the present condition. Will not this very state of affairs lead again to the abuses of credit which have wrecked so many houses in the past? We fear it will. Now is the time to consider these questions and start this reform.

★ **ROGERS & BRO., A.1.**

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*The Newest Patterns
The Newest Catalogue
The Newest Discount*



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ANY REPUTABLE DEALER WHO HAS NOT RECEIVED
OUR NEW CATALOGUE AND DISCOUNTS WILL
BE SUPPLIED ON APPLICATION.

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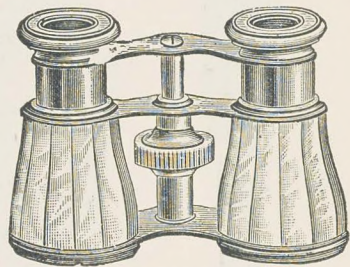
We have just received our

Fall Importation of **OPERA-GLASSES**

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Including many NEW STYLES AND PATTERNS,
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White Pearls.

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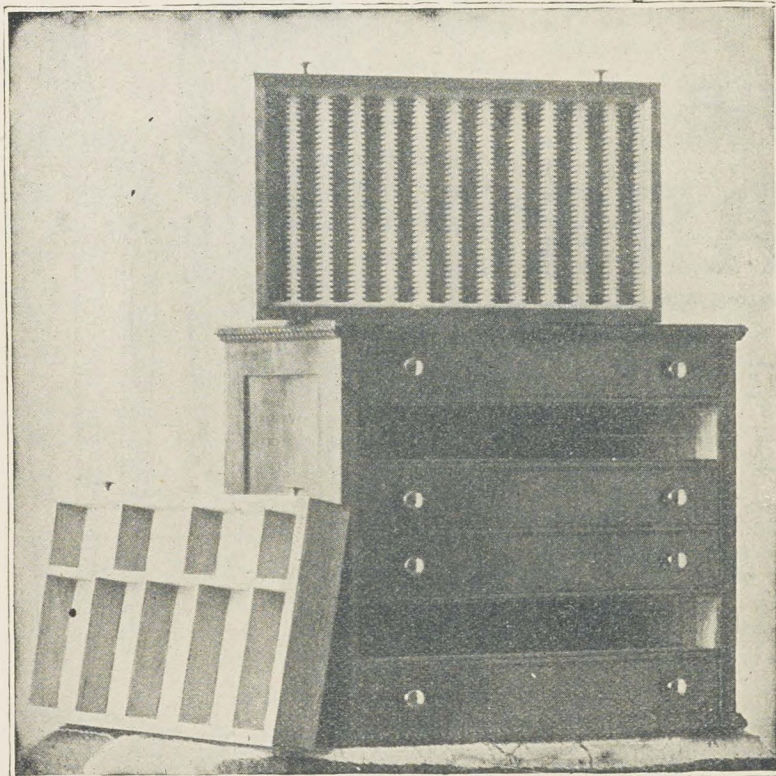
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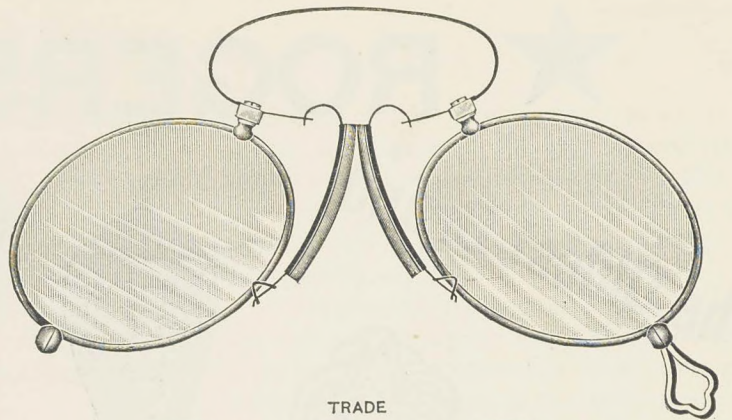
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For Reliable Optical Repair and R Work, try us.

Price-List, R Blank and Test Cards furnished gratis.

Jos. Friedlander & Bro. Wholesale Opticians and
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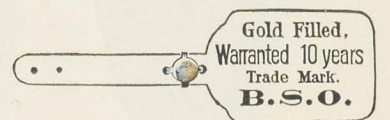
Send 30 Cts. for Sample of our No. 113 R. B. Frame.



TRADE
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MARK

Be particular to examine carefully Optical Goods offered for sale, and see if this Trade-Mark **B. S. O.** is stamped on the Springs of Eye-Glasses and on the Saddles of Spectacle Frames. Goods manufactured by other houses are being offered as the **B. S. O.** goods.

If you want **THE BEST**, see that they are stamped with our trade-mark and also have this tag attached. Read this tag carefully, and remember that we mean what we say on this tag.



See our sample line and be convinced of what we say. A full line of Riding, Straight and Cable Temple Spectacles, Rimless Eye-Glasses and Spectacle Frames, Guards, Temples, Screws, Springs, etc.

Bay State Optical Co.

These goods can be had from the Leading
Jobbers of this country and Europe.

Attleboro, Mass.



Address all letters to Dr. C. H. BROWN, 1824 Diamond St., Philadelphia, Pa.



DR. WM. M. JOHNSON,
Centralia, Ill.,

is well known as a first-class optician and watchmaker. He commenced the study of optics and the fitting of glasses in 1890, and has step by step been gradually climbing the ladder until 1894, when he took our **Correspondence Course**, and now stands in the front rank of educated opticians, with few superiors.

Since taking our Course Dr. Johnson has had considerable experience, and has spent some time on the road as a traveling optician. He is also a horological graduate, but he takes the greatest pride in being the possessor of our magnificent Diploma of Doctor of Refraction. We can commend him to the public as a skilful optician.

Extract from one of Dr. Johnson's letters: "I had read and studied, and even went so far as to call myself an optician, but all the while I was not satisfied with my attainments, and was about discouraged when I wrote to Dr. Brown and started on his **Correspondence Course**. I said to myself I will just try it, and I found it the most profitable experiment I ever made, entirely beyond my expectations. I absorbed so much practical knowledge that I did not know if it was I or some one else doing the testing. Any one who takes this Course will be surprised that they will take down the old sign and erect a new one that will show to the public their advanced standing."



Correspondence Continued.

This is simply a continuation of the old story that our **Correspondence System** meets and fulfils every requirement of the man who wishes to take a Course of Instruction on Optics and become an adept in the adjustment of lenses for defective vision.

This Course takes the place of a personal instructor standing on the same plane, and doing all that he can do. It leads the student through all the difficulties and intricacies of the study of Optics and Refraction, into the clear sunlight of practical knowledge thoroughly comprehended, and presents him with a handsome Diploma as a fitting climax. Then the graduate is in a position to attract and deserve the optical trade of his community.

This advertisement is only one paragraph of a single chapter, and gives but a faint idea of our College and its methods. Ours is a continued story, as found in the back numbers of **THE KEYSTONE** and in our elaborate circulars, for which you are invited to send if interested.

It goes without saying that we also conduct the College for the benefit of those who attend in person.

Enclose four cents with card or letter-head and address

Dr. C. H. Brown,
1824 Diamond St.
Philadelphia, Pa.

OPTICAL DEPARTMENT

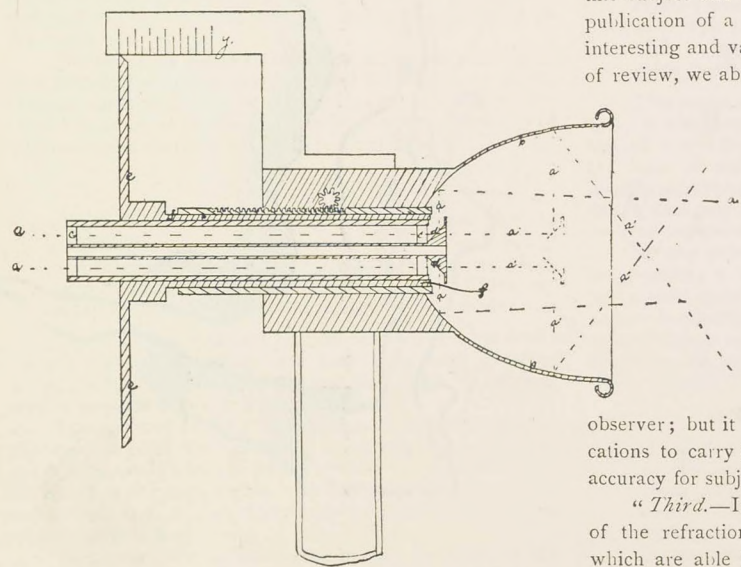
Reviews of Current American and English Ophthalmological Literature.

By CHAS. F. PRENTICE, M. E., New York.

A New Perimeter.

By B. M. HANNA, M. D., Pittsburg, Pa. "The Ophthalmic Record," September, 1896.

This instrument is another new departure from the ordinary style of perimeter, and one in which the optical principle of reflection is utilized, for the purpose of avoiding the obstruction ordinarily occasioned by the nose and brow. It essentially consists of a parabolic reflector *b*, attached to the end of a tube, which is capable of rotation upon its horizontal axis, and in the center of which a rod, bearing a conical reflector *d*, is capable of longitudinal adjustment within the parabola, as shown in the accompanying diagram.



Parallel rays of light *a*, emitted from an artificial source, at the left in the diagram, and entering the tube, pass through its glass ends *c c* and impinge upon the sides of the conical reflector *d*, where they are reflected at right angles against the concentric sides of the surrounding parabola. Thence they are reflected to the patient's eye, which is directed to look through the central opening in the base of the cone *d*, while being placed at the open end and in close proximity to the peripheral edge of the parabolic reflector. The image observed by the patient is a circle of light, which is made to vary in its diameter through longitudinal adjustment of the conical reflector *d* within the parabola. This delicate adjustment is effected by means of a rack and pinion, and the position of the conical reflector, relatively to the parabolic reflector, is indicated by a scale *g*, from which the angles of parabolic reflection into the eye may be conveniently read.

Should a lapse occur in the peripheral continuity of any of the light circles observed by the patient, it proves an impairment of the retina in the zone indicated by the scale *g*.

By placing a tube, having a small circular hole in its side, over the conical reflector *d*, like a sleeve, so as to exclude all light from the parabola, except that which passes through the hole, it is possible to precisely locate the position of a scotoma within any zone of the retina. The circular extent of the scotoma is determined by noting the limita-

tions of eclipse of the light spot upon the retina, as read from the peripheral graduations upon circular plate *e*, while the apparatus is being rotated upon its horizontal axis. The radial extent of the scotoma is similarly read from the scale *g* while the rack and pinion is being operated so as to effect longitudinal motion of the conical reflector *d* within the parabola. The readings which locate the positions and extent of scotoma may be readily transcribed to printed blanks, consisting of a series of numbered concentric circles, peripherally graduated, which accompany the instrument.

A vertical disk, capable of rotation upon its axis, containing peripherally successive pieces of red, green, blue and yellow glass, is mounted between the source of light and the tube, so as to determine the field and color sense for all zones and meridians of the retina. The instrument, as presented in the accompanying illustration, is made by J. Ludwig & Co.

Skiascopy and Its Practical Application to the Study of Refraction.

By EDWARD JACKSON, A. M., M. D. Monograph published by the Edwards & Dockert Co., Second Edition, Philadelphia, 1896.

The general interest shown in skiascopy since Dr. Jackson published his lucid and exhaustive monograph on this subject one year ago, has in this short time led to the publication of a second and revised edition of this highly interesting and valuable work. To do it justice, and in lieu of review, we abstract from it in the language of the author, who says:

"The claims of this subject to careful consideration are:

"First.—Skiascopy is an objective test, independent of the patient's intelligence or visual acuteness, and more largely than any other, independent of the patient's co-operation.

"Second.—It is by far the most accurate objective test. The limits of its accuracy depend on details of its execution, and the skill and patience of the observer; but it does not require any rare natural qualifications to carry it, for many eyes, to the extreme limits of accuracy for subjective tests.

"Third.—It requires but little more time than the use of the refraction ophthalmoscope or the ophthalmometer, which are able to give very inferior information. It saves time in making a complete diagnosis.

"Fourth.—It requires no costly, complex or cumbersome apparatus.

"Fifth.—It lays before the surgeon the refraction in each particular part of the pupil as it is revealed by no other test, opening up the principal avenue for farther advance in the scientific study of the refraction of the eye."

In the opening chapter, which treats of the history, name, difficulties, and method of studying the test, he says:

"That skiascopy, though a valuable method of examination, is one difficult to completely master, becomes more and more evident as one continues to work with it. The theoretical basis is perfectly simple, the fundamental phenomena readily observed; and, with a few days practice, the merest tyro may be able by it to estimate the refraction in favorable eyes with an accuracy not to be attained by any other objective method. But long after the stage of such acquirement has been passed, the surgeon will again and again encounter cases that still prove difficult and puzzling. Nothing but a thorough understanding of the optical principles involved, and patient study of the eyes which prove most puzzling, under carefully arranged favorable conditions, will enable him to master the test." * * * *

"The fact that this test shows, as does no other, the actual refraction of the eye for each particular portion of the pupil, increases enormously the wealth of phenomena it offers for study, adding to its scientific and practical value, but also making it more difficult by rendering it necessary to discriminate between the particular portions of the movements of light and shade which are of practical importance, and others which are not.

"How to Study the Test.—The study of skiascopy is something quite different from its practical application. To start from a few bare rules as to the placing of glasses, and the movements of the mirror, and the light in the pupil; and attempt to learn the test by using it will never give a

mastery of it. It is better to make a careful study of it before attempting to employ it as a method of ascertaining the refraction." * * * *

"The appearances upon which the attention is fixed in skiascopy are those of the red reflex in the pupil. The first step is to learn just what the reflex in the pupil is and some of the variations which it may exhibit. Let the beginner, with his eye at the sight-hole of the skiascopic mirror, throw into the observed eye, from a distance of twenty or thirty inches, the light from a lamp flame, as in the ordinary ophthalmoscopic examination. Looking into the observed eye with the light properly directed, he will see the brilliant point of light, the reflection, from the surface of the cornea, of the lamp flame he is using; and he may also see reflections of his own face or of other objects from the surface of the cornea. These are to be disregarded. The real object of study, the phenomena upon which attention is to be fixed, is the general red glow perceived within the pupil, the fundus reflex.

"If the mirror be rotated about an axis lying in the plane of the mirror, the area of light thrown by it upon the face will move in the direction towards which the mirror is turned. As the test becomes familiar, the direction of this movement will be known without any conscious effort to discover it." * * * *

"Having learned what it is that he has to watch in the pupil, the student should make himself familiar with the various appearances of the fundus reflex and its movements, by viewing it from different distances, with different lenses before the eye, with different mirrors, and later in a number of different eyes; and all this without, at first, concerning himself especially as to the state of refraction that causes the particular appearance that he sees."

"Without a good understanding too of the simple optical principles underlying the test, it must remain a blind routine and rule of thumb work, and can never be of the highest utility." * * * *

Under the head of general optical principles, movement, form and brightness of light area, it is said:

"Skiascopy is a method of measuring myopia, either the myopia originally present in the eye or that produced by a lens of known strength for the purpose of measurement. In myopia we have the retina situated back of the principal focus of the dioptric media, so that rays of a certain divergence, that is, coming from a point a certain finite distance in front of the eye, are brought to a focus upon the retina. Conversely, the rays coming from a point of the retina and passing out through the crystalline lens and cornea, are brought to a focus at the same distance in front of the eye. The point for which the eye is focused, and the point on the retina, on which the focused rays are received, have to the refractive surfaces of the eye the relation of conjugate foci.

"The Reversal of Movement.—The amount of myopia is known when we know the distance of the point in front of the eye, which has this relation of a focus conjugate to the retina. Skiascopy furnishes a method of determining the position of this point. Closer to the eye than this point for which it is focused, the observer may see an erect image of the fundus. Farther from the eye than this point, he can perceive an inverted image. Skiascopy is a means of determining when the image seen is erect and when it is inverted, or when it passes from the erect to the inverted.

"When this occurs may be understood from a study of figure 1. Let *M* represent a myopic eye, *A* and *B* being two

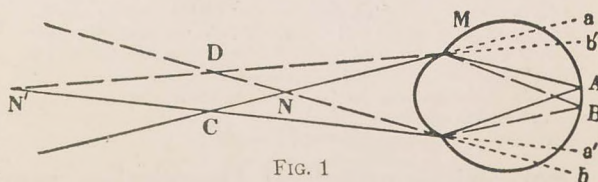


FIG. 1

points of the retina from which rays emerge to reach the observer's eye; and *C* and *D* the points at which these rays coming from the retina are focused, the rays coming from *A* being focused at *C* and those from *B* at *D*.

"The apparent position of a point is determined by the direction of a ray coming from that point, and passing through the nodal point of the observer's eye. Suppose the observer's eye is placed at *N*, closer than the point for which

(Continued on page 869.)

The Anatomical Eye-Glass Guard

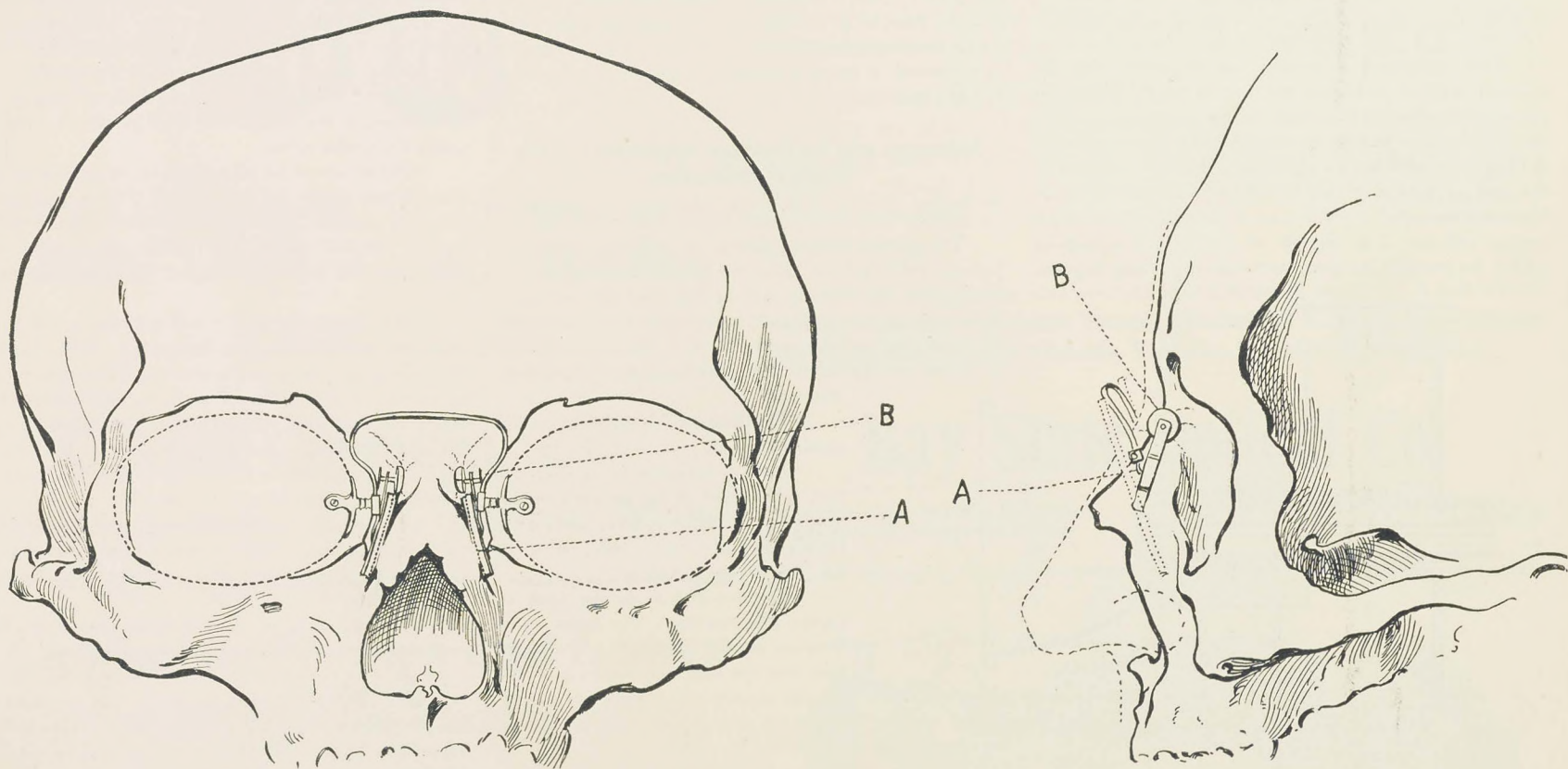
THE MOST IMPORTANT IMPROVEMENT IN EYE-GLASSES
EVER INVENTED.

It is an Automatic Anchor.

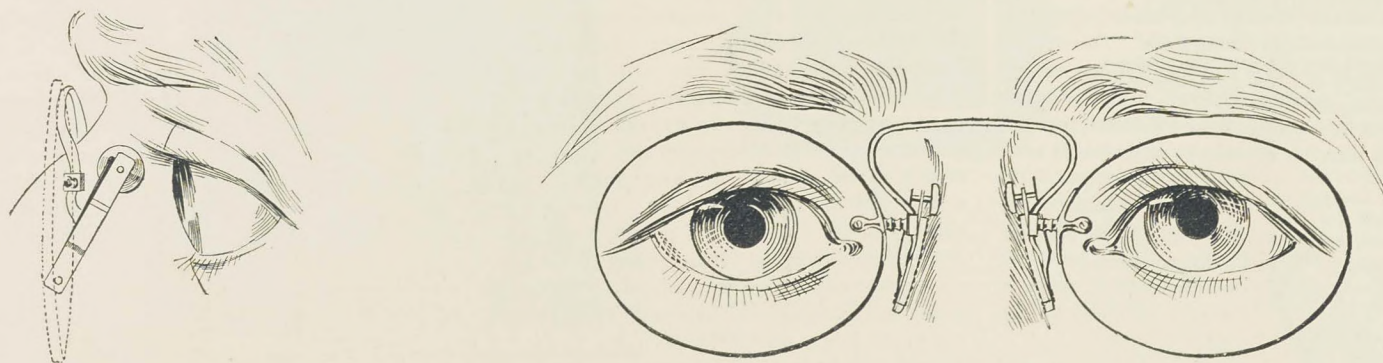
The optician simply adjusts the main guard to the patient's nose,

Our Spring Pad does the rest.

It affords the wearer a delightful sense of Comfort and Security.



The device is based on a thorough study of the anatomy of the face, as shown in above illustrations. The main guard *A* rests on that portion of the nose where the bone is near the surface, and supports the weight of the lenses. The spring pad *B* grasps the bridge of the nose, where the bone is thickly covered with flesh, presenting a yielding surface, from which an ordinary guard slips off, while our spring pad obtains a firm hold, as shown in the following illustrations, taken from life:



For Prices and Full Description, send to

F. A. Hardy & Co.

46 and 48 Madison Street, Chicago

Optical Questions and Answers.

✎ This page will bear careful study, and the practical optician can learn from these Questions and Answers much that will be of value in his everyday work and that can not be found in books.

[In order to insure an answer in the next issue, questions should reach us by the 10th of the preceding month.]

[We will take pains to carefully answer all questions of optical subjects, and give advice in the management of difficult cases, and our subscribers are cordially invited to invoke our assistance whenever they find themselves in need of counsel and advice. In addition to giving a careful history of the case, please always give information on the following points:

1. Age. (If not possible to give exact age, always approximate.)
2. Have glasses been previously worn? How long and what number?
3. Visual acuteness of each eye, and what improvement glasses afford?
4. Range of accommodation (without glasses and with them).
5. Evidence of astigmatism (as shown by radiating lines).
6. Test for muscular insufficiency.]

If "A. B. C." will send us his name and address, we will give his question consideration. We do not answer anonymous questions.

"G. F. G."—Lady has twitching in eye-ball; she says not in eye-lid. Twitching comes on after a start or fright, and causes headache while it lasts. Left eye has been troubling her for about a year; the right only lately. Fitted her with glasses a year ago, prior to the present trouble, and they are satisfactory in every way, but for the twitching. What is the cause of the trouble, and can I remedy it.

We think it would be a difficult matter for the patient to determine whether the twitching is in the eye-ball or the eye-lids, and we feel that the patient's statements in this respect should not be relied upon too implicitly, but that the matter should be determined by a competent observer. The trouble is usually in the lids, and we incline to the opinion that such is the case here, notwithstanding the statement to the contrary.

The twitching seems to be due to a nervous impression on a morbidly sensitive system. Any existing error of refraction must, of course, be corrected, after which attention should be given to building up the general condition and to improving the nutrition of the nervous system.

"Toronto 3."—You speak, when answering a question on astigmatism, in a previous issue of *The Keystone*, of not depending on what the patient has to say about the radiating lines, but to try other tests. Please explain the tests you allude to, manner of proceeding, etc.

The question referred to was whether the patient's answer that all radiating lines look alike final proof of astigmatism; to which our answer read, "No, if astigmatism is suspected other tests must be used."

The common test for astigmatism is the difference in the appearance of lines radiating in various directions, and yet with patients who are stupid or slow in perception, this difference may escape notice. At any rate, it is always well to use several tests, and thus verify by one the results obtained by the other.

The expensive ophthalmometer may be used, or the cheaper keratoscope, both acting on the same principle; also the ophthalmoscope and the retinoscope, all four of these methods being objective tests, and are independent of any answers the patient may make. They all require some degree of skill, and are therefore not always available.

The two tests we would mention as being easily made use of, are the stenopaic disk and cylindrical lenses. The former determines the meridians of least and greatest curvature (if there is any departure from the normal globular shape), and a spherical lens will measure the refraction of these meridians. The acceptance of cylindrical lenses, and the improvement in the acuteness of vision they afford, are looked upon as reliable evidence of the existence of astigmatism.

"H. F."—Young man, of about nineteen or twenty years, has always noticed that something was the matter with his eyes; but as he worked on a farm he thought it would be unnecessary to consult an optician, until now, when he has to. He is attending school and does considerable studying; has never worn glasses. Vision in both eyes is $\frac{2}{3}$. R. E. is a little better than L. E. Horizontal lines are very black, and others run together. R. E. not as bad as both eyes; L. E. worse. No muscular insufficiency. Used homatropine, but with the same result as without. The best lens I could give him was: R. E. Cyl. +4, axis 105° ; L. E. Cyl. +4.50, axis 90° . This brought almost all of the lines black, but only test type down to $\frac{2}{3}$. By adding a Sph. to the Cyl. made everything worse. He says that he can see the work on the board at school, if large and plain, and when reading has to bring work quite close and look long to get along. I would like to fit him out, but without your help I cannot.

This seems to be a case of marked astigmatism, and our correspondent must work out the problem for himself, whether it is simple or compound, myopic or hypermetropic. According to the history he has given us, it appears to be a case of simple hypermetropic astigmatism of high degree.

The pin-hole disk might be used to ascertain how high a degree of acuteness of vision can be obtained, and then a lens should be sought for to afford an equal or greater improvement. The cylinders are to be placed in the trial

frame and rotated to the meridian of best vision, and then stronger and stronger cylinders are used at the same meridian until the one is found that produces the greatest improvement in vision.

As a corroborative test the stenopaic slit may be used to determine the two chief meridians, or those of least and greatest curvature. And then with spherical lenses the refraction of these two meridians can be determined, from which it is easy to deduct the necessary cylinder. Both of these tests are used with the card of test letters, by which is measured the acuteness of vision they develop.

These tests should be repeated at least three times on as many different days, before the glasses are prescribed. For the comfort of our friend, we might say that in cases of astigmatism as high as this, it is seldom possible to raise the acuteness of vision to normal at first, but a gradual improvement may be expected from a constant wearing of the glasses.

"Beefheads."—Lady, married, age about twenty six. Had fever when a child, which seemed to affect her eyes. Eyes sore until seven years old; always seemed weak; health good. Raised on ranch. Vision poor; could not always distinguish a cow from a horse at distance where other people could. Never used glasses. Pin-hole improved vision. Without glasses, R. V. $\frac{2}{3}$, L. $\frac{2}{3}$. With glasses: R. —.12 D. Sph., V. $\frac{2}{3}$ not perfect; L. —.50 D. Sph., V. $\frac{2}{3}$ not perfect; R., Ast. —1.50 D. Cyl., axis 0° ; L., Ast. —.75 D. Cyl., axis 50° . R., —.12 D. Sph. $\odot$ —1.50 D. Cyl., axis 0° = $\frac{2}{3}$ V.; L., —.50 D. Sph. $\odot$ —.75 D. Cyl., axis 50° = $\frac{2}{3}$ V. Combined above R. and L. vision $\frac{2}{3}$ very perfect and clear. Reading distance, found R., —.75 D. Sph. $\odot$ —1.25 D. Cyl., axis 0° ; L., —1.75 D. Sph., no astigmatism. Here is the puzzle to us, that left eye should not have astigmatism in reading. With reading glasses as above, vision No. 40 on test card for reading. Patient would accept no other glasses, as vision was best with above. Had no trouble in finding above, as lady was not impatient or unreasonable. Were we correct in giving above to use for sixty days or more, until we could make further correction? No muscular insufficiency.

This seems to be a case of compound myopic astigmatism, in which the concave spherocylinders raise the acuteness of vision almost to normal. The glasses that correct the error of refraction, if not of too high a degree, are usually suitable for reading in persons of this age, and the rule is that they should be worn constantly, for distance and reading and for all purposes.

In correcting presbyopia when it is combined with astigmatism, if the latter is slight it may be disregarded, and a plain spherical lens be prescribed. But such a procedure is scarcely allowable in this case, as the degree of astigmatism is sufficiently great to require recognition; and therefore we scarcely think the cylindrical glass can be safely omitted.

"J. E. M."—Boy, age ten, strong and healthy, came to me with pain in his head and eyes. Upon examination found following: V. $\frac{2}{3}$ each eye; near point, three inches. No improvement. With Maddox rod (horizontal) it required an 8° prism base out to bring streak through flame at fifteen feet off. With dot and line test, using 10° prism over right eye, base down, at twelve inches, he saw two dots and one line; upon increasing distance there were two dots and two lines, upper dot on right line; and distance between lines increased as card was taken farther away. Prism test with candle fifteen feet, he could overcome 4° base in and 15° base out. Other muscles normal. I gave him spectacles; prisms 2° base out each eye for constant use, but he only uses them for reading and near use, and says the pain is no better with them than without. The mother thinks the eyes were injured some years ago, by a playmate coming up behind him and pressing his fingers into the eyes; but I am of the opinion that the child inherited it, from the fact the mother was operated on for the same trouble when nine years old, and the father wears prisms all the time, and the other children have the same trouble. Do you agree with me; and do you think the eyes can be brought back where glasses will not be needed, and how would you proceed?

The refraction and accommodation both being normal in this case, we must look to the muscular system for the cause of the trouble. From the tests employed we find that neither the external nor internal recti muscles measure up to the standard, and therefore our method of treatment would be to develop the strength of both sets of muscles by exercise with prisms.

The object looked at should be a candle flame or gas jet at a distance of fifteen or twenty feet. Prisms of equal strength should be placed before each eye; this tends to separate the images, but the natural desire for binocular vision calls into action one or the other set of muscles to prevent the diplopia. The prisms are allowed to remain before the eyes for five seconds, thus exercising the muscles for that length of time; then they are lifted for five seconds, thus allowing relaxation of the same muscles to take place. Every five seconds this is repeated, and an alternate contraction and relaxation of the muscle is produced. The sitting may last about five minutes, but should be discontinued sooner if there is evidence of fatigue, and should be repeated daily, or, better still, twice a day.

For developing the internal recti muscles, the prisms are placed before the eyes bases out. Prisms of 2° are sufficiently strong to commence with, but as the treatment

proceeds and the muscles improve, stronger ones may be gradually used, up to 10° before each eye.

For developing the external recti muscles, the prisms are placed before the eyes bases in. In the commencement the prisms should not be stronger than 1° over each eye, but these may be gradually increased until 4° is reached (making a total of 8° of prism strength).

After this method of treatment has been continued for a month or two, we would expect to find a very noticeable improvement in the muscular system of the eyes, and in the relief of pain in the head and eyes. A perseverance in this plan may be all that is necessary to effect a cure; or if not, our correspondent will then be better able to prescribe prisms if they are needed for wear.

"H. F. No. 2."—Young man, about twenty-seven years of age; wears glasses, but wants better ones. R. E. I can fit all right, but want help on L. E. Right correction for R. E. —1.50 Sph. $\odot$ +1.00 Cyl. axis 90° , decenter $\frac{1}{2}$ in. L. E. —.75 $\odot$ $\frac{1}{2}$ base out, with pin-hole disk. Had an accident some years ago while at work in a machine shop. A piece of iron flew up into his eye, and I think it tore the cornea, although it looks as if there was a scar. The pupil is the shape of accompanying drawing. Put on pin-hole disk, improved vision. Put —.75 Sph. $\odot$ $\frac{1}{2}$ base out, which brought vision down to $\frac{2}{3}$. It appeared as though he was looking through cracked stained glass. Can this eye be helped at all? Without pin hole lenses do not improve much. I have tried to explain all, and think maybe you understand. Please advise me what to do.

The defective vision is probably due to the scar or opacity of the cornea, and this is a condition which cannot be remedied by glasses. From the description of the appearance of the pupil, we would suppose the piece of iron had not only punctured the cornea, but had also injured the iris and caused a traumatic iritis, which resulted in adhesions to the capsule of the crystalline lens, and thus impaired the shape and mobility of the pupil.

With an opacity of the cornea and an adherent pupil, it is rather surprising that acuteness of vision can be raised to $\frac{2}{3}$; but the explanation is that the pin-hole disk allows the rays of light to pass through a transparent portion of the cornea, and with the contracted pupil in a favorable position. This restricts favorable sight very much, and does not allow of a wide range of vision.

The only hope of improving vision seems to lie in placing before the eye a stenopaic apparatus, and this may consist of a frosted glass with a small central clear portion, and placed in a spectacle frame before the eye in such a position as to afford the greatest improvement in vision. Whether the difficulties in the way of the practical every-day use of such an apparatus are sufficient to forbid its use, can only be determined by actual trial.

"M. M. M."—What shall I give? Girl, aged fourteen, strong and healthy. After reading a time has pain in her eyes, and diplopia. When five years of age was fitted for hyperopia with good results, but has not worn glasses for a long time. V. $\frac{2}{3}$, part of $\frac{2}{3}$; R. $\frac{2}{3}$, L. $\frac{2}{3}$. R. +.55 blurs $\frac{2}{3}$, and +.27 is, if anything, not quite as good as without it. L. +.67 equals $\frac{2}{3}$ and part of $\frac{2}{3}$, making vision clearer or brighter. Tried with +2 D. in each eye, separately, neutralizing some, but with same result. With Maddox rod requires 14° prism base out, over either eye, to fuse streak and candle at twenty feet; 7° prism base up over right eye, or 4° prism base down over left eye, to fuse. Without lenses can read finest print at five inches, or eighteen inches with +.67 L. and +.27 R., same result.

If this girl was hypermetropic when she was young, she doubtless has the same defect still, even though it exists in a latent form; and this presumption is strengthened by the position of the near point, which, if correctly measured at five inches, indicates a hypermetropia of not less than 2.50 D. In cases of refractive error of this amount of hypermetropia, if there is any tendency to strabismus it usually exists in the form of convergent squint, which is due either to excessive action of the internal recti muscles, or to a lack of strength in the external recti. This latter condition is the one that we find in the present case, the insufficiency amounting to 14° . This, too, lends support to the theory that hypermetropia is the refractive error present in the case.

Such being the condition, the first step in the treatment is the correction of as much of the defect as the eyes will allow. Even though the glasses blur the vision at first, their use must be insisted upon. We think +1 D. glasses would be the proper ones to start with; and as they would tend to restore the harmony that should naturally exist between accommodation and convergence, spherical convex glasses may be all that is required to give complete relief to all the annoying symptoms. Their strength may be increased from time to time, if the eyes will permit.

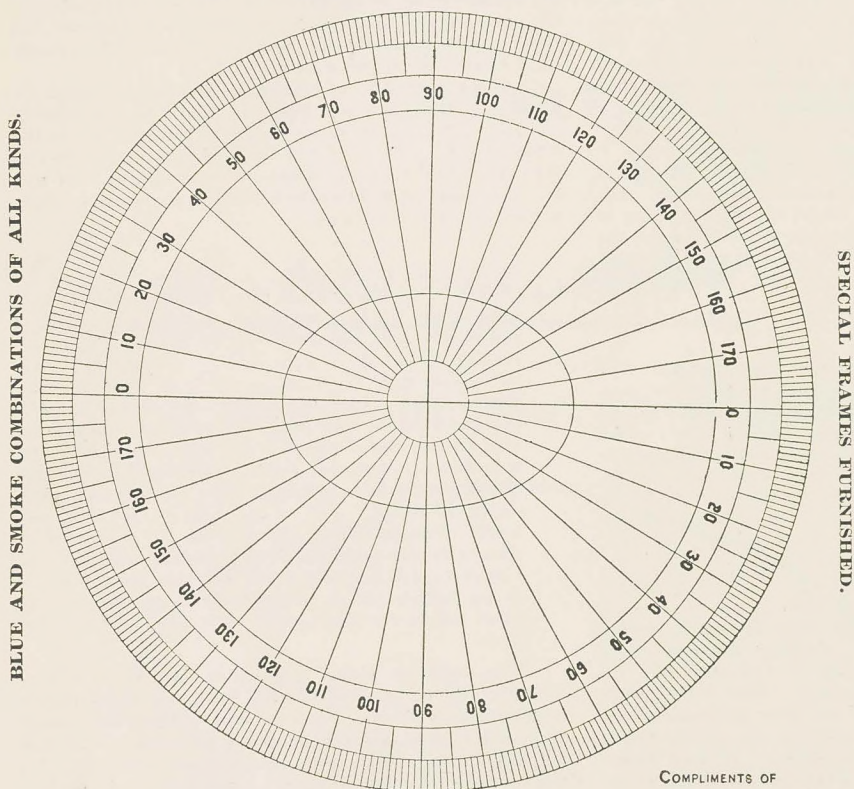
After following this line of treatment for some months, our friend will know whether it is affording as much comfort as can be expected; and if not, it may become necessary to combine prisms with the sphericals, perhaps 2° or 3° bases out on each eye, to be gradually increased if necessary.

The sphericals alone, or these spheroprisms, will probably be all that is required, and the hyperphoria can, as a rule, be ignored, as it rights itself with the correction of the other defects. However, it may happen that it will also call for correction, and then the necessary prism base up or down should be combined with the lenses above mentioned,

(Continued on page 873.)

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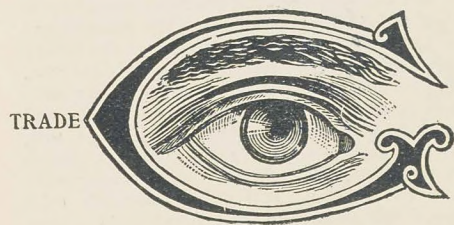
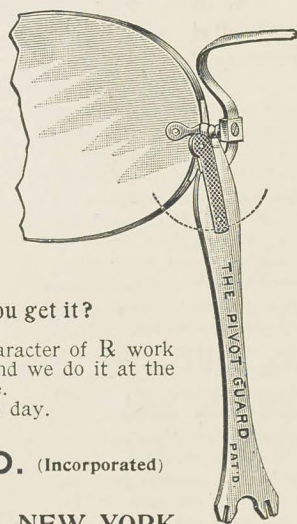
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ESTABLISHED, 1893
INCORPORATED, 1896

(Talk No. 7.)

It seems strange that any watchmaker or jeweler should hesitate about entering the optical profession. The fitting of glasses is one of the most pleasant pursuits in the world. It can be made the most profitable branch in the jewelry business. The expense of buying an outfit is so absurdly small that it is difficult to understand why every jeweler is not an optician also. It requires less than \$100 to purchase an outfit to begin with. For \$50 we will teach you in a simple and comprehensive manner the science of fitting glasses. We will thoroughly explain every subject connected with the science. Our college is the only place in the world that gives individual instruction. It is the only institution that permits a student to stay as long as he pleases—until he feels satisfied in his own mind that he is a competent optician—at one tuition fee. If you would like to know more about our college, send your name and address for our catalogue "How to Become a Good Optician." It is free. We pay the postage. Address,

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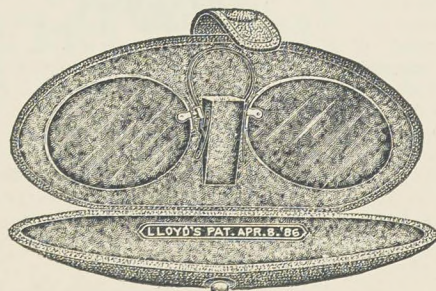
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Skiascopy and Its Practical Application to the Study of Refraction.

(Continued from page 865.)

the observed eye is focused. The apparent position of the point *A* is determined by a ray which passes through the upper part of the pupil and is turned down. It appears in the direction of *a*. The apparent position of the point *B* will be located by the ray coming through the lower part of the pupil and turned up. It will be seen in the direction of *b*. Thus, from this position *N*, the point *A*, which is really above, appears above, and the point *B*, which is really below, appears below. The observer sees an erect image.

"When, however, the observer places his eye at *N'*, at a greater distance than that for which the eye is focused, the ray which reaches his nodal point from *A* will be one that comes through the lower part of the pupil and is turned up; so that *A* will appear to be located in the direction of *a'* in the lower part of the pupil. From this position he will judge the location of *B* by the ray which comes through the upper part of the pupil and is turned down, so that *B* will appear to be located in the direction of *b'* in the upper part of the pupil. That is, the point *A*, which is really above, will appear to be below, and the point *B*, which is really below, will appear to be above. The image observed is inverted.

"The Point of Reversal.—It is evident that this change in the relation of the rays, that brings about the change in the apparent position of *A* and *B*, occurs at the distance of the points *C* and *D*, at which the rays coming from the retina are focused. Here it is that these rays intersect and take their new relation which gives the reversal of the apparent position of the points of the retina from which they come.

"It is, therefore, convenient in connection with skiascopy to designate this point as the *point of reversal*. The name indicates the significance of this point with reference to this test. Of course, it is really the same point as the far point of the myopic eye—the point for which the eye is focused—the conjugate focus of the retina—these latter names indicating the relations of the same point in other matters.

"It is only when the rays leave the eye convergent, only when the eye is myopic, that they ever come to a focus in front of it. If the eye be emmetropic or hyperopic, the rays emerging parallel or divergent remain so at all distances. Hence, in emmetropia and hyperopia, there can be no point of reversal. From whatever distance the eye is viewed, the image perceived is erect.

"In myopia, the distance of the point of reversal from the eye depends on the degree of convergence of the rays as they leave the cornea—depends on the amount of myopia. The distance of the point of reversal from the eye, being the distance from the eye to its far point, is the focal distance of the lens required to correct the myopia. So that to ascertain the amount of myopia, we have only to determine the point of reversal, and measure its distance from the eye.

"Skiascopy determines the position of the point of reversally observation of the directions of the movement of light and shade in the pupil. Other kinds of ophthalmoscopic examinations attempt the recognition of the details of the fundus image. But, as the point of reversal is approached, the details of the fundus image become indistinct and fade away entirely, so that the location of the point of reversal cannot be accurately determined by such an examination. On the other hand, when this point has been so closely approached that the fundus details are quite indistinguishable, it still remains easy to recognize the direction of the movement of light and shade in the pupil; and, from it, to deduce the erect or reversed character of the image. Skiascopy, therefore, determines the point of reversal, and measures the degree of myopia with much greater exactness than Couper's or the fundus image test.

"In skiascopy, we watch the *apparent* movement of light and shade in the pupil, due to the *real* movement of an area of light upon the retina. This area of light is secured by reflecting into the eye the light from a lamp with a skiascopic mirror. This is done in a darkened room, in order that the retina outside of this light area may be dark, furnishing a decided contrast to the area to be watched. The movement of the light area upon the darkened retina is secured by varying the inclination of the mirror, rotating it about some axis lying in the plane of the mirror and passing through the sight hole. The direction of the movements thus produced by a certain change in the inclination of the mirror depends on whether it is plane or concave.

"Real Movement of the Light on the Retina. The Source of Light.—The lamp flame, or similar source of light used for the test, may be called the *original source* of light, in contradistinction to the reflection of it from the mirror,

which being more immediately related to the movement of the light on the retina, we shall call the *immediate source* of light.

"The Plane Mirror.—With the plane mirror the immediate source of light is behind the mirror as far as the original source of light is in front of it. The rays reflected from the mirror enter the eye under observation as though they had started from this immediate source. As the mirror is rotated, the apparent position of the immediate source of light changes; for this immediate source is situated upon a line drawn through the original source perpendicular to the surface of the mirror, and necessarily changes with that perpendicular as the inclination of the mirror changes.

"With the change of position of the immediate source of light, the rays coming from it and falling upon the eye, are made to fall upon a new part of retina, and thus the inclination of the mirror causes a change in the part of the retina that is lit up by the light reflected into the eye.

"What these changes are can be better understood by a study of figure 2. *L* represents the position of the lamp

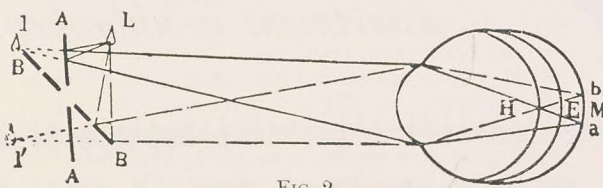


FIG. 2

flame, the original source of light. When the mirror is held in the position *AA*, the immediate source of light is situated at *L*, and light entering the eye from that direction falls upon the retina toward *a*. When, however, the position of the mirror is changed to *BB*, the immediate source of light is changed to *L'*, from which, light falls upon the retina toward *b*. As the mirror is rotated from *AA* to *BB*, the position of the immediate source of light moves from *L* to *L'*, and, as a consequence, the area of light upon the retina moves from *a* to *b*. The light on the retina, then, moves in the direction that the mirror is made to face. It is said to move *with the mirror*.

"Only a portion of the light reflected by the mirror enters the eye, the remainder falls upon the face and makes an area of light on the face. One may readily demonstrate by trial that this area of light cast by the mirror on the face also moves *with the mirror* under all circumstances.

"The rays of light coming from *L* and *L'* intersect at the nodal point of the eye; and passing directly on do not again change their relative positions. Whatever the distance of the retina from this nodal point, the movement of the light upon it will be in the same direction, so that whether the retina be at *H*, as in hyperopia, at *E*, as in emmetropia, or at *M*, as in myopia, the *real movement* of light upon it from a certain movement of the mirror is always in the same direction.

"Therefore, *with the PLANE MIRROR, the REAL MOVEMENT of the area of light on the retina is WITH the mirror—with the area of light on the face—in all states of refraction.* This is true for all distances of the light from the mirror, or of the light and mirror from the tested eye."

(To be Continued.)

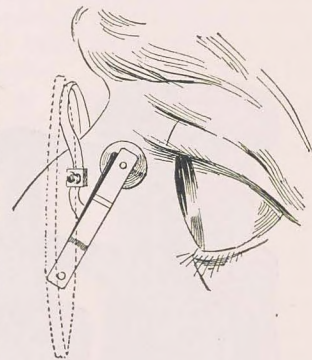
"To those interested in the study of optics, I know of no way by which a dollar could be spent so profitably as in a year's subscription to *The Keystone*."—L. B. Forsythe, optician, St. Catherine, Ontario, Canada.

A New Departure in Eye-Glasses.

It will be of interest to every one engaged in the optical trade to know something of the nature and advantages of an entirely new invention in rigid eye-glasses. It has long been the ambition of inventors in this line to get a good, substantial, rigid eye-glass frame. The results of these various attempts may be readily seen by looking at any optical catalogue. Arthur N. Baker, Logansport, Ind., has invented an eye-glass frame which is claimed to be not partially, but really and actually rigid. It is claimed that it holds the lens just as the optician fits it, not only as regards the axis but that it always maintains the same pupillary distance; that it is easily put on and can be removed with one hand; that any style of guard may be used and changed instantly. These advantages, together with the fact that it has no coiled springs, and is substantially made, make it just as satisfactory and comfortable to the wearer as spectacles. It is to be manufactured and controlled by the Spencer Optical Manufacturing Co., of New York. It will also be made in "rimless."

The Anatomical Eye-Glass Guard.

Our illustration shows the new "anatomical" eye-glass guard, which, it is claimed, will prove a boon alike to optician and eye-glass wearer. To the latter it is said to give a delightful sense of comfort and security, the advantage to the optician being the ease of adjustment and the trade-making satisfaction experienced by the wearer. The device



is based on a study of the anatomy of the face. The main guard, as shown in the illustration, rests on that portion of the nose where the bone is near the surface, and supports the weight of the lenses. A spring pad grasps the bridge of the nose, where the bone is thickly covered with flesh, presenting a yielding surface, from which an ordinary guard slips off, while the spring pad obtains a firm hold. This guard, which can be had from F. A. Hardy & Co., Chicago, is said to have aroused the admiration and gained the approval of both opticians and eye-glass wearers.

Meetings of Optical Societies.

At the annual meeting of the Optical Society of the State of New York, held at the Fifth Avenue Hotel, New York City, on October 6th, it was decided, after prolonged, full and earnest discussion, to introduce a new bill at the next session of the legislature of the State. All the officers were unanimously re-elected for the ensuing year. The reports of the treasurer and of the chairman of the executive committee show the Society to be free from indebtedness, and to have a total membership of 130. The members present were urged to assist in increasing the Society's membership by appealing to those engaged in optical pursuits, and explaining to them the objects of the Society, which should commend themselves to all opticians who seek scientific advancement, and who desire protection against misrepresentation and possible legislation opposed to their present interests. The session of the Society lasted over five hours, and adjourned after midnight.

A well-attended meeting of the Pennsylvania State Optical Association was held early last month in Lafayette Hotel, Philadelphia. President Martin occupied the chair, and, after the transaction of the routine business, made an address on matters affecting the optical profession.

The regular monthly meeting of the New England Association of Opticians was held in Young's Hotel, Boston, Mass., on October 20th. Dr. A. A. Klein, of Boston, addressed the meeting. A part of the routine business was the consideration and adoption of several amendments to the by-laws.

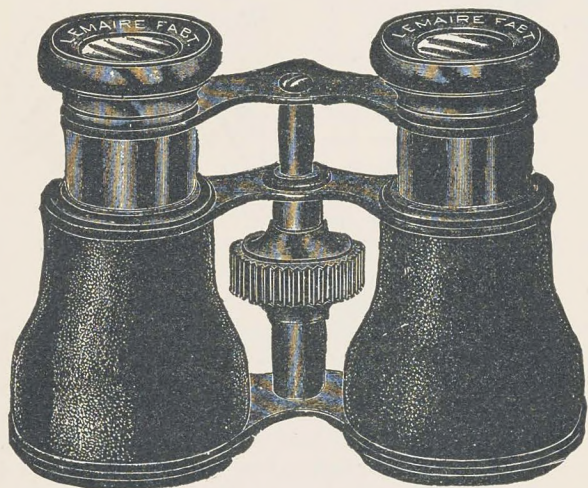
An Optician's Record Book.

The Optician's Record Book of Optometric Examinations, just published by Dr. C. H. Brown, of the Philadelphia Optical College, fills a want of the genuine long-felt variety in optical equipment. By its use an optician can have a complete record of every case examined and every pair of glasses prescribed. There are spaces for recording everything that should be known about the eye on full examination, and the arrangement of headings suggests the proper and complete mode of procedure in making a thorough, accurate and systematic examination. This book reduces to a minimum the labor of keeping records, and removes the possibility of mistake or omission in examining. It will prove a valuable addition to the optician's outfit. A copy will be forwarded from this office to any of our readers on receipt of the publisher's price, one dollar.

L. BLACK & Co., Detroit, Mich., are now located in their handsome new store at 156 Woodward Avenue. The new quarters comprise first and second floors and a basement, handsomely fitted up and rearranged especially for the firm. A complete photographic department has been added, embodying a large and varied assortment of cameras, both for professionals and amateurs, and all other varieties of photographic materials; also magic lanterns, slides and all the paraphernalia connected with stereopticon work. Of course, the optical stock is all-embracing, and a full line of jewelry, diamonds, silverware, etc., is also carried. The stock comprises the every requirement of the optician, jeweler and photographer.

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CHAPTER	I.—INTRODUCTORY REMARKS.
CHAPTER	II.—THE EYE ANATOMICALLY.
CHAPTER	III.—THE EYE OPTICALLY; OR, THE PHYSIOLOGY OF VISION.
CHAPTER	IV.—OPTICS.
CHAPTER	V.—LENSES.
CHAPTER	VI.—NUMBERING OF LENSES.
CHAPTER	VII.—THE USE AND VALUE OF GLASSES.
CHAPTER	VIII.—OUTFIT REQUIRED.
CHAPTER	IX.—METHOD OF EXAMINATION.

CHAPTER X. (Concluded.)

PRESBYOPIA.

The effort should always be made to afford the patient as extended a range of accommodation as possible, by giving the glasses that allow the greatest distance between the near point and far point of distinct reading vision. This will operate in the direction of forbidding a glass that is too strong, because the stronger the glass the more restricted will be the range of accommodation.

This calls for the trial of several pairs of glasses, those slightly stronger and those a little weaker, in connection with the pair that seems to be indicated by the test that has been made. Then the patient should be allowed to express his preference for the pair of glasses that seems to him to be the most satisfactory. Not that the patient's choice should necessarily determine the matter, but because his preference should be given some consideration in arriving at a final decision.

COMMON SENSE TO BE USED.

Sometimes the patient may be right and sometimes he may be wrong, but the optician, in the light of the knowledge gained by his examination, will be able to determine which it is. If your judgment sustains the patient's choice, it is a satisfaction to him to receive the glasses which he feels are suitable. But if otherwise, you must be the final arbiter, and the responsibility for the proper selection rests with you. We occasionally meet with people who cannot be made to say that they are satisfied, either because of natural perverseness or because the case is not an uncomplicated one.

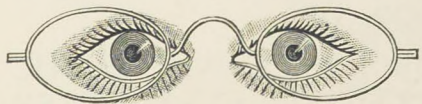
Even though our scientific tests indicate a certain number of glass, we must not too strongly force it upon a patient against his own judgment. There must be an admixture of common sense with science, if the prescribed glasses are to be a success, and if the scientific optician wishes to avoid shipwreck of his superior skill and knowledge. After trying several pairs of glasses the patient sometimes becomes confused or his eyes get tired, and it is impossible for him to tell which pair suits him best; then the optician dispels the clouds and prescribes the glasses indicated by his tests.

PURPOSE FOR WHICH THE GLASSES ARE INTENDED.

The question should always be asked for what purpose the glasses are intended; are they desired for reading alone, for reading and writing, or also for sewing and working, and in the latter case at what distance the work is performed, as the strength of the glasses will vary somewhat with the use to which they are to be placed.

FITTING THE FRAME.

Great care should be taken in fitting the frame for reading glasses, to see that they are correctly centered and properly placed before the

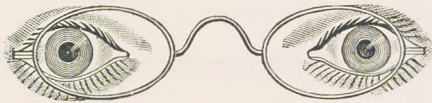


eyes, so that the eyes may look through the centers of the glasses, as otherwise the prismatic effect of the lens is unintentionally called into action.

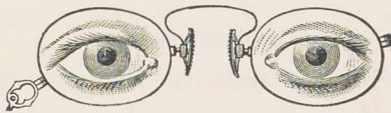
The normal position for glasses is when they are correctly fitted over eyes that are looking at distant objects, the visual axes being parallel and

corresponding exactly with the optical centers of the lenses, and they in turn with the geometrical centers. For reading the optical centers may be a trifle closer, a little lower, and the plane of the glasses may be inclined forwards, so as to maintain it as nearly as possible at right angles to the line of vision.

A convex lens is thickest at the center, and may be looked upon as composed of an indefinite number of prisms with their bases joined at the optical center. If the line of vision pass through this point it is unaffected; but if it pass to either side a prismatic effect becomes noticeable, the more marked the farther from the center the line passes.



If the frame is too wide, the pupils will look through the inner edges of the lenses, which will then act as prisms with their bases outward. This increases the need for convergence, taxes the internal recti muscles, and strains the eyes. If the frames are too narrow, the line of vision will be directly through the outer edges of the lenses, with the effect produced of prisms with their bases inwards. This assists the convergence and relieves the internal recti muscles, but at the same time disturbs the harmony that naturally exists between the accommodation and convergence, and in this way may be productive of symptoms of asthenopia. In case the frame should be improperly fitted, there would be much less discomfort to the eyes from frames that are too narrow, than from frames that are too wide.



Oftentimes when patients complain that their glasses are not satisfactory, the cause of the trouble may be found in the improper adjustment of the frame. This is an important matter, and if neglected may destroy the benefit of the most carefully adjusted lenses.

ORTHOSCOPIC LENSES.

In regard to the use of orthoscopic lenses (which have been described in this chapter) for the relief of presbyopia, the majority of persons wearing reading glasses will get along well enough without them. In the great number of cases, after the proper convex glasses are worn, the eyes become accustomed to the altered relation between the accommodation and convergence, and the use of the glasses is attended with no discomfort. But when the spherical convex glasses are uncomfortable and the eyes cannot get accustomed to their use for any length of time, and there is so much complaint from the patient that the optician is compelled to look for some remedy, then the prismatic glasses may be tried and an effort made to bring the accommodation and convergence into harmony again. Sometimes in such cases a pair of orthoscopic spectacles will enable the person to read with the greatest comfort, but of course the book must be held just at the focal length of the prismatic combination, in which case there is an absence of all effort of either accommodation or convergence, and the removal of all the strain which previously attended and followed the use of ordinary spectacles.

On the other hand, it unfortunately happens in some cases that the orthoscopic glasses not only fail to afford relief, but even increase the discomfort that was formerly experienced. As these cases can not be properly classified as simple presbyopia, the further consideration of their treatment will be postponed for the present and taken up again under the head of asthenopia.

There is one point that should be constantly borne in mind, and that is, a rapid increase in the presbyopia, requiring frequent changing of glasses for stronger ones, is the principal premonitory symptom of glaucoma; hence, if there is any suspicion of this disease, the optician must make careful examination for it according to the indications laid down in the earlier part of this chapter.

CLOSING REMARKS.

In closing this chapter on presbyopia, we will repeat a few of the important points. You should in the first place in all cases ascertain the actual condition of the refraction. Find out if there be any existing error, either hypermetropia, myopia, or any of the various forms of astigmatism, and correct this carefully with a suitable glass or combination of glasses.

Then with these glasses in the trial frame placed before the eyes, you measure the range of accommodation to determine the near point and far point for reading easily the test card that is held in the hand. If you find that the near point has receded from the eyes to a point beyond eight inches, you add to the glasses in the trial frame a convex spherical glass of sufficient strength to bring the near point back to eight inches, and then calculate what the sum of the two glasses will be.

You can thus see that the hypermetrope will always require glasses stronger than the emmetrope to correct his presbyopia, while the myope will require glasses weaker in proportion as his degree of myopia is greater.

From what has already been said on these subjects, you will be able in every case to ascertain the refraction and the amplitude of accommodation, and the number of the glass which an eye requires for vision at any distance. You should take the precaution of giving the weaker numbers of convex glasses to those yet young and unaccustomed to wearing glasses; while you can give a half a dioptric more convex to an aged person whose amplitude of accommodation is feeble and null.

You will sometimes meet with cases in which there may be amblyopia, and the patient is unable to read the fine type with any glass. With such persons you must ascertain the smallest type which they can read, and, using that as your test, give them that convex glass which affords the best vision at the proper distance.

At other times the patient may be so illiterate that he can not read, and we sometimes meet with such cases even in this enlightened day. Here you must ascertain for what kind of work the glasses are desired, and prescribe that convex glass with which he can see to do that work most clearly and satisfactorily.

Perhaps some of our readers may think this chapter is too long, and that we have given too much time to the consideration of the accommodation and the proper correction of presbyopia. If so, our reply would be to call attention to the great importance of near vision in all civilized countries, and of the real and practical value of being able to take an exact account of the amplitude of the accommodation of the person examined, and thus to prescribe glasses scientifically.

TO THE OPTICIAN.

A large proportion of the persons you will be called upon to fit with glasses will be presbyopic, and consequently it behooves you to acquire a thorough knowledge and a clear understanding of this common defect, which sooner or later affects the eyes of every individual.

If you are able to fit presbyopia scientifically and satisfactorily, you will speedily gain an enviable reputation and lay the foundation of a growing optical business, that will attract an increasing class of patients suffering from the more complicated optical defects. It is important for you to understand the changes that take place in the eye with the advance of age, and especially the changes in the lens and ciliary muscle which constitute the condition of presbyopia, with its accompanying deficiency of sight; and then your knowledge of the previous chapters will indicate the remedy and elucidate the scientific principles involved in the adjustment of the lenses required.

Presbyopia may seem like a simple defect that requires but little care in its correction; but whatever is worth doing at all is worth doing well. Remember little things count, and a reputation can be made or marred by the manner in which even the simplest duty is performed.

"The Optician's Manual," as published in THE KEYSTONE from April, 1890, to November, 1896, (Chapters I to X inclusive) can now be had in book form. Price, \$2.00.

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who desire the most thorough knowledge in applied Optics, Ophthalmoscopy, and the technique of the Ocular Muscular System, to know they can *implicitly* rely upon obtaining the same in the least possible time (claims by less experienced notwithstanding) at

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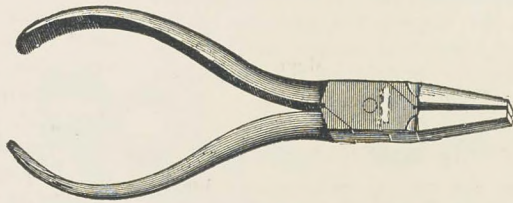
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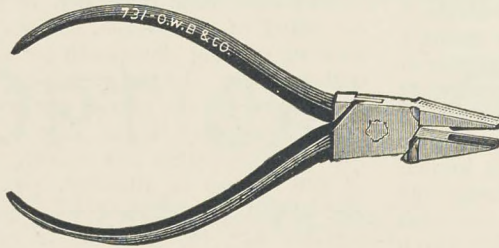


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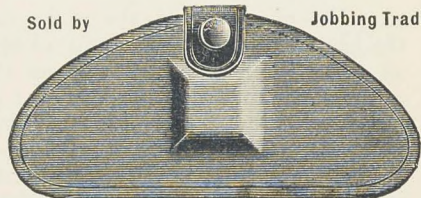
New line of hand and drop forged pliers, round, flat and chain nose, end and side cutting, etc., 4", 4 1/2", 5" and 6" lengths, black and nickel-plated, specially made by us for the watchmakers' and opticians' trade. The finest line in the market at moderate prices.



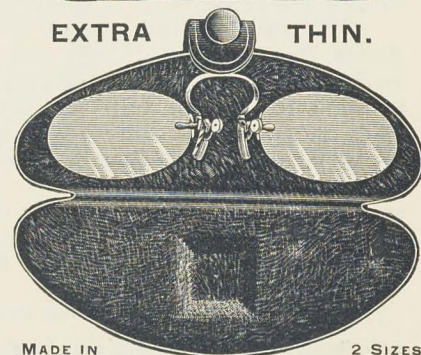
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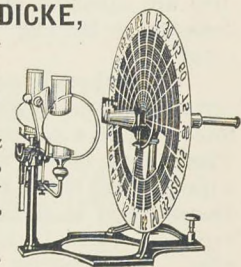
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SEAMLESS GOLD FILLED SPECTACLES, EYE-GLASS AND FRAMELESS MOUNTINGS

ARE FINISHED BETTER THAN GOLD,

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If your Jobber does not handle our Mountings, write to us and we will inform you where you can obtain them.

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Optical Questions and Answers.

(Continued from page 867.)

"H. U. M."—A druggist, age thirty-six; vision normal, $\frac{1}{8}$ good. With muscle test I find three degrees of exophoria in each eye, but the trouble is, his eyes are badly bloodshot and he very much wishes to have them clear. Was quite a heavy drinker and smoker up till four years ago, when he quit drinking and still smokes moderately.

The bloodshot appearance of the eyes may be due entirely to the exophoria, which, if not corrected, imposes a strain on the eyes and results in congestion of the conjunctiva. In this view of the case, the application of prisms for the relief of the exophoria would be the proper treatment for the cure of the unsightly condition of the eye.

Or there may be a conjunctivitis, or even a condition of granular lids; either of which would call for a physician's treatment. For the conjunctivitis we would suggest the following collyrium: R Acid. Boracic Pulv. gr. x.

Sod. Borat. Pulv. gr. viij.
Aque Dest. 3 vi.
Aque Camph. 3 ij.

To be dropped into eyes four times daily. The granular lids require direct application by the physician himself.

"C. B. T."—As homatropine is very expensive, costing at wholesale \$2.25 for five grains, can I put up one ounce at a time, and keep it so it is safe to use by combining fifteen grains boracic acid to the ounce?

Boracic acid is one of the most common ingredients of eye-waters, because of its antiseptic, disinfectant and deodorant properties. It is supposed to arrest fermentation and putrefaction, and to destroy all low organisms, exhibiting these qualities even in weak solution. Even though it is added to other drugs to keep their solution sweet, it is not advisable to mix too much at one time. Eye lotions are much to be preferred when freshly made, and therefore they should be prepared in quantities of one or two drams at a time, as even this small amount will last quite a little while.

"L. L. B."—At what distance should Loring's ophthalmoscope be used in estimating refraction, etc., direct method?

In using the ophthalmoscope by the direct method for the purpose of determining the refraction of the patient's eye, it is held as close as possible, or within half an inch. The accommodation of both patient and observer should be at rest, and if the latter's eye is not emmetropic it should be made so by a correcting lens. If the eyes of both persons are emmetropic, the rays emerge from the patient's eye as parallel, and in this condition enter the optician's eye and are exactly focused upon the retina, forming a clearly defined image.

If the patient is hypermetropic, the rays emerge divergent and cannot focus and form a clear image in the optician's eye; a convex glass is required for this purpose, and the strongest lens that affords the clearest view of the details of the patient's fundus will be the measure of the defect.

If the patient is myopic the emerging rays will be convergent, and such rays cannot be focused upon the observer's

retina except by the aid of a concave lens, and the weakest lens that affords the clearest view of the fundus of the patient's eye will be the measure of the defect.

In either case the optician receives an indistinct image and knows there is some ametropia, but he cannot know whether it is hypermetropia or myopia, until he revolves first a convex lens, and then a concave lens, in the sight-hole of the ophthalmoscope.

Among the Opticians.

— W. Hodgson has opened an optical office in Dover, Massachusetts.

— J. F. McAllister has opened an optical office in Fair Haven, Vt.

— Charles T. Saul has opened an optical establishment in Rockland, Me.

— H. Hautier, Ballingham, Minn., has added an optical department.

— John Goodale will soon begin business as an optician in Newton, Mass.

— H. S. McDonald, optician, of Toledo, Ohio, was a visitor to Detroit recently.

— M. Pond has added an optical department to his store in Westborough, Mass.

— W. A. Austin has opened an optical goods store at 586 Queen Street, West, Toronto, Ont.

— George A. Presley, druggist, Milaca, Minn., has added a line of optical goods.

— H. C. Mackey, optician, Athol, Mass., has opened a branch office in Baldwinville, Mass.

— John Hood, jeweler, Santa Rosa, Cal., has been in San Francisco, taking a course on optics.

— J. A. Floyd, Mattawa, Ont., has been taking a course on optics in the Toronto Optical School.

— H. H. Frudenfeld & Co. have begun business as opticians at 237 Nicollet Avenue, Minneapolis, Minn.

— Frederick C. Brooks has begun business as an optician in the *Globe-Democrat* Building, St. Louis, Mo.

— W. B. Rushmer, optician, has opened optical parlors at 73 West First South Street, Salt Lake City, Utah.

— Frank Honig, formerly with Meyrowitz Brothers, has opened a large optical goods store at 48 North Pearl Street, Albany, N. Y.

— Shepherd & Bennett, Malden, Mass., advertise their optical department by a very prettily compiled pamphlet. This firm is meeting with all the success that enterprise makes and deserves.

— The Johnston Optical Co., Detroit, Mich., will issue their new catalogue about the last of November.

— H. U. Meyers of Sunfield, Mich., spent several days recently in Detroit, Mich. Mr. Meyers graduated from the Detroit Optical Institute.

— Sam. Wolfstein, of the Pacific Optical Co., Los Angeles, Cal., recently returned from an extensive order-taking trip through the State.

— Tudor & Co., opticians, of St. Paul, have established offices in East Grand Forks, Minn., with G. F. Peterson & Co., and in Ada, Minn., with William Hintze.

— Thomas N. Glover, formerly in business for himself in Worcester, Mass., is now in charge of the optical department of J. A. Foster & Co., Providence, R. I.

— The board of education, Detroit, Mich., have ordered twenty Bausch & Lomb instruments each from the Johnston Optical Company and L. Black & Co., of that city.

— Daniels & Moule, opticians, Middletown and Newburgh, N. Y., have dissolved partnership by mutual consent, Mr. Daniels taking the Newburgh office and Mr. Moule the one in Middletown.

— N. M. Shimberg, of the Syracuse Optical Co., Syracuse, N. Y., has offered to furnish spectacles free of charge to poor school children whose eyesight is defective, and also to instruct the teachers in methods by which they may diagnose cases of defective vision.

— Four jewelers from southern California journeyed all the way to San Francisco last month, to attend the course on optics given in that city by the Chicago Ophthalmic College. Only the long journey and the expense prevented many others from distant points from attending.

— Nelson K. Standart, optician, of 253 Woodward Avenue, Detroit, Mich., has placed his advertisement in the center of a novel political picture. By folding which in various ways portraits of the presidential and vice-presidential candidates and of Mayor Pingree, of Detroit, will be obtained.

— Edwin Beckwith, manager of the New York Mutual Optical Co., 59-61 Maiden Lane, New York, is making an order-taking tour through New York and New Jersey, and reports a good business. Mr. Beckwith is well known to the trade, having been a traveler for many years, and at one time for the Julius King Optical Co.

— Henry Kahn & Co., in the *Chronicle* Building, San Francisco, Cal., display a pair of eye-glasses, perfect in detail, weighing eighteen pounds and thirty-three inches long. The mountings are of fourteen karat gold; and the lenses, each ten by fourteen inches, are accurately ground and centered. The glasses were made by the firm.

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is a good
thing;
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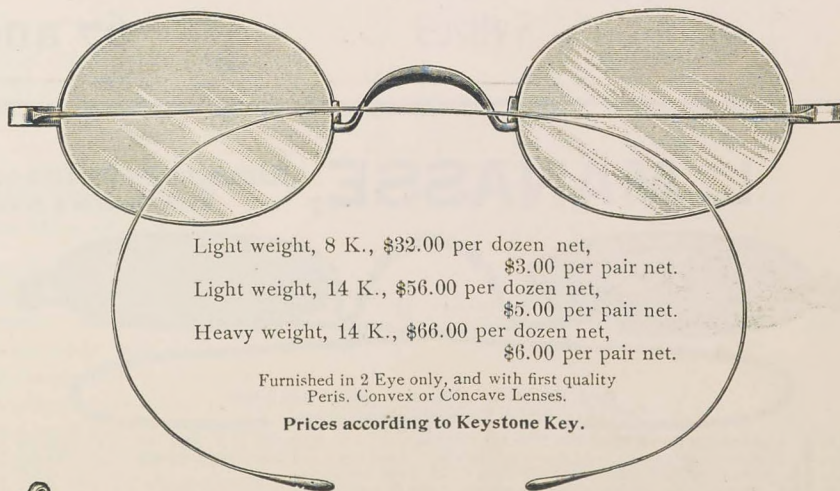
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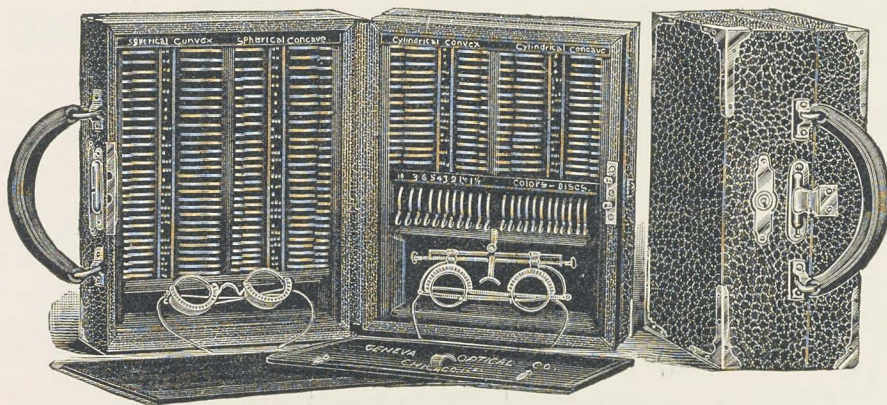
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1-10 Plate Hooks only, . . . \$ 3.00 per dozen.
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10 K. Gold, ... 42.00 " "

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Lenses mounted in heavy gold and nickel-plated rim, + and — signs with numbers in Dioptres stamped in handles. Jointed on span rings at same price.

The case contains the following lenses:

28 pairs each + and — spherical lenses.
16 pairs each + and — cylindrical lenses.
10 prisms $\frac{1}{2}$ to 10°.
1 Maddox muscle test.
1 Ridgway muscle test.
1 Ridgway chromatic test.

1 opaque disc.
1 half opaque disc.
3 smoke disc shades 1, 3 and 5.
1 pin-hole, 1 stenoptic and 1 solid disc.
1 graduated trial frame No. 1055D or 1055E.
1 Fairie trial frame No. 1050D or 1050E.

The spherical lenses are assorted by .25 D. from .25 to 3.50; by .50 D. to 7.00; by 1 D. to 11; 13, 16, and 20. The cylindrical lenses are assorted by .25 D. from .25 to 3.50; by .50 D. to 6.00.

No. 1045D.	Silk Velvet Lining.	Style D rims, $1\frac{1}{4}$ inches.	Price, }	\$62.00.
No. 1045E.	" " "	" E rims, $1\frac{1}{8}$ inches.	Price, }	
No. 1049L.	Velvet Lining.	Style L rims, $1\frac{1}{4}$ inches.	Price, }	53.00.
No. 1049M.	" " "	" M rims, $1\frac{1}{8}$ inches.	Price, }	

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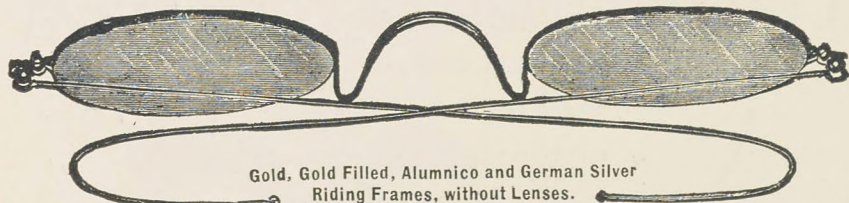
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Gold, Gold Filled, Aluminico and German Silver
Riding Frames, without Lenses.

No. 1.	Light weight frame, broad saddle bridge, 1 eye, per doz., 8 K.	\$18.00	10 K.	\$21.00	14 K.	\$28.50
No. 3.	Medium weight frame, with heavy saddle bridge, 1 and 0 eye, per doz., "	23.00	"	"	"	33.00
No. 34.	10 K. gold filled frame, saddle bridge, 1 and 0 eye, per dozen					6.50
No. 34A.	Same as No. 34, but with cable temple, 1 and 0 eye, per dozen					8.00
No. 34B.	Extra quality gold filled frame, saddle bridge, 10 K. seamless wire, 1 eye, per dozen					9.00
No. 23.	German silver frames, saddle bridge, 1 and 0 eye, per dozen					2.00
No. 27.	Aluminico frames, saddle bridge, 1 and 0 eye, per dozen					2.75

Gold, Gold Filled, Aluminico and German Silver Frames, Straight Temples, without Lenses.						
No. 15.	Medium weight frame, flat eye wire and temples, 1 and 0 eye, per dozen,	8 K.,	\$25.20	10 K.,	\$30.00	14 K., \$42.50
No. 32.	10 K. gold filled frame, 1 and 0 eye, per dozen					6.50
No. 32A.	Extra quality gold filled frame, 10 K. seamless wire, 1 eye, per dozen					11.00
No. 21A.	German silver frames, 1 and 0 eye, per dozen					1.80
No. 25.	Aluminico frames, 1 and 0 eye, per dozen					2.40

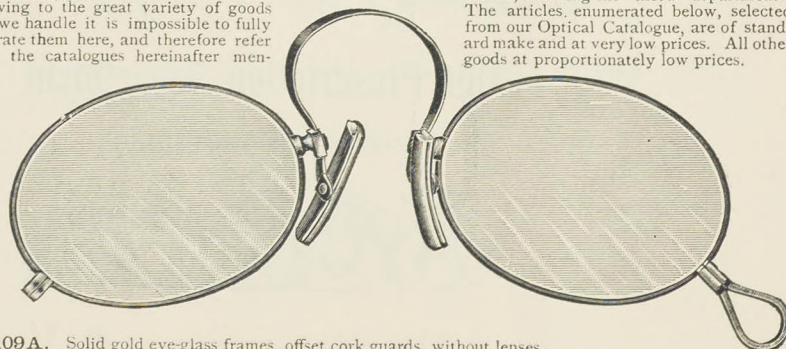
We issue the following Catalogues: Catalogue No. 5, Opticians' and Jewelers' Trade List.
Catalogue No. 3, Meteorological Instruments, with wholesale price-list
Catalogue No. 2, Mathematical Instruments, " " "
Catalogue No. 4, Magic Lanterns, " " "

Prescriptions Filled
without delay.

TO THE TRADE:

Owing to the great variety of goods which we handle it is impossible to fully enumerate them here, and therefore refer you to the catalogues hereinafter men-

tioned, covering the various departments. The articles enumerated below, selected from our Optical Catalogue, are of standard make and at very low prices. All other goods at proportionately low prices.



No. 109A.	Solid gold eye-glass frames, offset cork guards, without lenses, 1 and 0 eye, per dozen	8 K.,	\$19.50	10 K.,	\$24.00
No. 119.	Rimless eye-glasses, 10 K. mtgs., offset cork guards, No. H or C pcx. or pcc. lenses, per doz.				16.00
No. 120.	Rimless eye-glasses, 10 K. mtgs., offset cork guards, with ring for cord, pcx. or pcc. lenses, per dozen				20.00
No. 129.	10 K. gold filled frame, offset cork guards, like cut, without lenses, per dozen				6.00

INTERCHANGEABLE LENSES.

First quality pcx. or pcc. lenses, 1 and 0 eye, polished edges	Per doz. pairs.	\$1.00
First quality cement bifocal convex lenses, 1 and 0 eye		4.50
First quality perfection bifocal convex lenses, 1 and 0 eye		5.00

Lens-Grinding for Prescription Work.

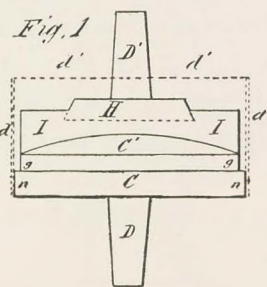
IX.

Grinding to Perfect Figure.



ONLY a portion of the parts $D' H$ were shown at Fig. 3 at the close of our article on page 785, October, 1896, KEYSTONE. The omission was intentional on our part, from the fact that

we like to make our descriptions complete as far as we go. Trying to describe too many things at one time invariably leads to confusion. We reproduce Fig. 3 of October, 1896, KEYSTONE, at Fig. 1, and add the omitted parts. These omitted parts are shown at $D' H$. The idea is, the taper center D' is ultimately placed in the lathe spindle and used precisely as the taper center D , which is connected to the convex tool $C C'$.



Getting True Centers for Roughing-out Tools

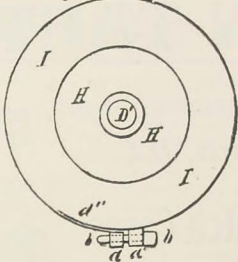
A little thought given to the matter will show the reader that if, while the lead lap I is attached to C' , we should insert D in our lathe spindle and turn the taper D' (which is attached to the lead lap I) perfectly true, and to fit our lathe spindle, we could place D' in the lathe spindle and have the face of the lead lap I run perfectly true. Usually such a lead lap will adhere sufficiently to C' to permit D' to be turned in the lathe enough to render it true.

If it should be found that the lead lap does not adhere sufficiently to C' , we can shift the band shown at the dotted line d , Fig. 3 of October, 1896, KEYSTONE, from the step g to the one at n , as shown at Fig. 1 of the present issue. Such change will cause the lead to flow over the edge at g and give a "clinch," which is subsequently turned away, leaving the parts of the forms indicated by the full outline. Undoubtedly the best material for the band or hoop d is sheet steel. In case this material is employed, the band should be made to close on C with screws, as shown at Figs. 2 and 3.

In these cuts, Fig. 2 is a side view of the band d precisely as shown in Fig. 1, and Fig. 3 a view of Fig. 2 seen in the direction of the arrow c .

The band d is made long enough to allow the ends to lap a little, as shown at d'' , Fig. 3. Two bars or ribs $a a'$ are rigidly attached to the band d , as shown at Figs. 2 and 3. Through these bars pass two screws, shown at $b b'$, Fig. 2, which serve to close $a a'$ together and thus clasp d to C . Where such steel band is used the step at g , Fig. 1, can be dispensed with and the outside edge of C made a plain cylinder corresponding to the step g . In this case the band d is left on the lap I until the taper center D' is turned true. If proper care is observed, the center D' will require very little if any turning to get the lap I to run dead true.

Fig. 3



Care in Preliminary Matters

Some of our readers may think we are "pottering" over minor details, and they would like to have us come to something practical. Of such we would ask, "Do you wish to do best work with best appliances? if so, be patient and we will instruct you how." The accuracy of the taper center D' depends entirely on the care we take to adjust it. The lead for the lap I is perfectly plastic when the parts $D' H$ are inserted, and if we set $D' H$ accurately, laps like I must run true. A device which is quite inexpensive and readily gotten up will insure such accuracy.

To construct such device, we first prepare a double-ended taper center as shown at $A' A''$, Fig. 4. The ends A' and A'' are supposed to be duplicates and interchangeable. Let us suppose that the end A' is inserted in our lathe spindle up to the line x . We next provide ourselves with a solid round spindle of iron or machinery steel, of such size as to permit boring out one end to a hollow taper which will exactly fit on the taper A'' and assume the position indicated by the dotted lines $f f$. We show such spindle at B , Fig. 5, with hollow cone shown at the dotted outline A'' .

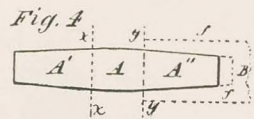
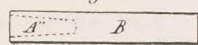
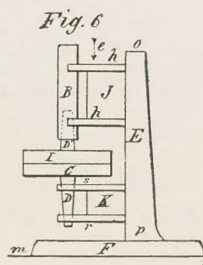


Fig. 5



The supposition is that if A was placed in the arbor of our lathe and B was placed upon A'' , B would run true. The next operation is to provide a device by means of which we can set the taper D , Fig. 1, so that its axis will exactly coincide with the axis of the convex tool C and its taper center D .



The device referred to is shown complete at Fig. 6. It consists of a base of cast iron about 10" or 12" long by 3" wide and 1/2" thick. This base supports the column E , which is cast fast to it. This column is about 12" high by 1" thick, counted at right angles to the line of sight in Fig. 6. The column tapers from the base up, that is, from p to o , measuring 2" at p and 1" at o . Cast fast to the column E are two lugs shown at $J K$, which bear adjustable supports for the parts $D D' B$, as will be fully explained in our next article.

"The Optical Department of The Keystone I find indispensable. It has very greatly improved my knowledge of optics."—W. G. Turpisch, graduate optician, Stapleton, New York.

The Optician's Manual in Great Demand.

THE KEYSTONE. MALDEN, MASS., October 9, 1896.

GENTLEMEN: We enclose check for two dollars, and will feel obliged if you will send at your earliest convenience a copy of "The Optician's Manual." We have perused it in its monthly installments for over a year with much pleasure and profit, and, having previously made a close examination of Hartridge on "Refraction," have added to our small store of optical knowledge a good deal of the practical and useful, and are just beginning to see our way to carrying on our business as opticians in a manner much more worthy of us than was formerly the case. We intend to keep on, in the hope of some day making our pretensions as opticians of some slight account. We appreciate THE KEYSTONE most highly, and can easily see that neither labor nor expense is spared in the enlightenment of engineers in the many departments of our business. In literary work, too, it is of very high order; we regard "John Tweezer" as an artist in a very high sense of the word. Yours truly, SHEPHERD & BENNETT.

Optical Advertising.

In the development of the art of advertising, the business of the optician has not been overlooked. Opticians are yearly advertising more extensively and effectively, and many optical advertisements in the daily papers would do credit to the professional adsmith. A few of these we reproduce for the benefit of opticians generally:

Just What Your Eyes Need.

We'll tell you after scientifically testing them. This service and advice are free. If Glasses are needed, we select the best and most effective kind, and charge moderately for them.

GEO. G. LAFAYETTE,
Graduate Optician and Jeweler

Your Child's Eyes



No parent can afford to neglect the child's optical senses. Cross eyes with children are mostly the consequence of a muscular defect. In many cases it can be overcome by timely wearing the right kind of glasses. This may be the case for the oculist to decide. I never take any chances of any kind in any case that comes to my observation. I make a most careful examination of any case FREE OF CHARGE, and will tell you every time frankly and to the best of my knowledge what further steps to take. I refer all my cases of a more difficult nature to one of our best oculists. In any case I take particular pains to render the most conscientious assistance to my clients.

William Moulton,
Optician and Jeweler,
40 State St., Newburyport.

Do Your Eyes Tire Easily?

If you earn your living by constant application to close work, such as book-keeping, sewing or reading, you may find your eyes giving out after a few minutes' work. In

nine cases out of ten this can be remedied by glasses PROPERLY FITTED. We make a specialty of fitting glasses, and if we can't fit you it costs you nothing.

William Coates & Son,
Graduate Opticians
Coatesville

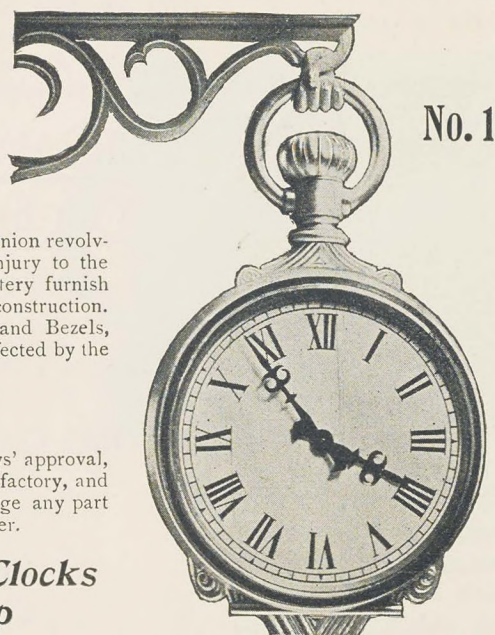
WHEN THE EYES

- become tired from reading
- or sewing, or if the letters
- look blurred and run together, it is a sure indication that glasses are needed.
- Consult our expert Oculist.
- Optician about your eyes.
- Examination free.

C. P. BARNES & CO. OPTICIANS
817 Market Street. JEWELERS

A POSITIVE SUCCESS! Timekeeping Sign Clocks.

*Artistic
and
Attractive*



Governed by any clock having pinion revolving every minute, without possible injury to the finest regulator. Three cells of battery furnish the power. Simple and strong in construction. All clocks made with glass Dials and Bezels, and wired for electric lights. Not affected by the weather.

GUARANTEE

Every clock shipped on ten days' approval, is carefully tested before leaving our factory, and we will repair or replace free of charge any part of Movement ever getting out of order.

**Post and Bracket Clocks
from \$40 up**

Joliet Electrical Mfg. Co., Joliet, Ill.

Chicago, September 16, 1896.

Gentlemen: The Electric Clock which you hung in front of our store about eight months ago has given excellent satisfaction. It requires very little attention and gives us no trouble whatever. Can cheerfully recommend it to any jeweler contemplating purchasing a street clock, as it is the best advertisement one can have.

Yours very truly,

Benj. Allen & Co.

A Few of Our Customers Are:

Benj. Allen & Co., F. Lewald & Co., F. A. Dostal, Chicago; A. M. Endweiss, Monterey, Mexico; J. H. Hard, Seattle, Wash.; J. T. Roberts, East Liverpool, Ohio; J. E. Beck, Washington C. H., Ohio; William Day, Lexington, Ky.; E. C. Barlow, Georgetown, Ky.; C. J. Linden, Kankakee, Ill.; De Roy Bros., Pittsburgh, Pa.; G. E. Feagans, Carl Oesterle, Joliet, Ill.; A. H. Richards, El Paso, Texas; Shepherd & Bennett, Malden, Mass.; W. M. Sheldon, Adrian, Mich.; J. H. Wight & Co., Spencer, Iowa; Youngdahl & Lilja, Chicago; Joseph Ruff, Chicago; Merritt Barnes, Avoca, Iowa; etc., etc.

JOLIET ELECTRICAL MFG. CO., Joliet, Ill.

It's Poor Economy

to use poor springs simply because you can get them for a little less money. What you save in price you more than lose by replacing broken ones. There's just one right way to make good springs. That's the way our **T. & Co. Mainsprings** are made.

They are made of drawn wire.

They have no flaws, as ordinary springs do, which are rolled in sheets and cut to proper width.

They will not set in the barrel.

They are finished in the best possible manner.

We sell them on a guarantee to replace all broken ones.

Our Price, \$2.00 per Dozen; \$22.00 per Gross.

According to Keystone Key.

Have you been buying your American Jewels and Balance-Staffs from us? If not, you have been losing money. See our prices. We guarantee them satisfactory; if not found so, return them in good condition within ten days and get your money.

Prices According to Keystone Key	Elgin Balance-Staffs and Cock and Foot Jewels, ...	\$2.00 per Dozen.
	Hampden, Illinois, Waltham, Columbus and New York Standard Staffs and Jewels, ...	\$3.00 per Dozen.

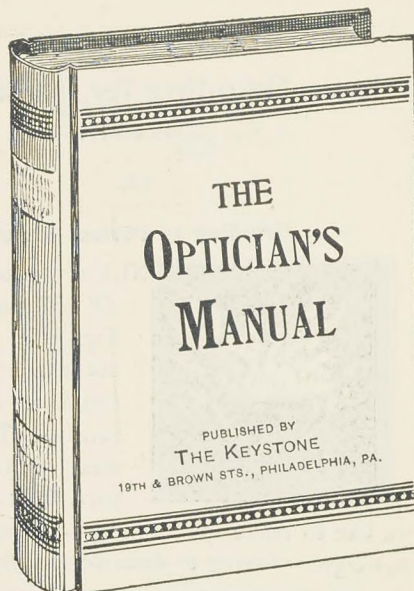
Cash must accompany all orders to secure above prices.

TIDD & CO.,
COLUMBIANA, OHIO.

THE OPTICIAN'S MANUAL

in Book Form

is Now Ready



This book is compiled from the well-known serial, "The Optician's Manual," which has been running in THE KEYSTONE since May, 1890. It is handsomely bound in cloth, and contains 376 pages. The many orders received in advance indicate a big demand for the book. Those eager to secure a copy of the first edition should order at once.

Sent prepaid on receipt of **\$2.00**

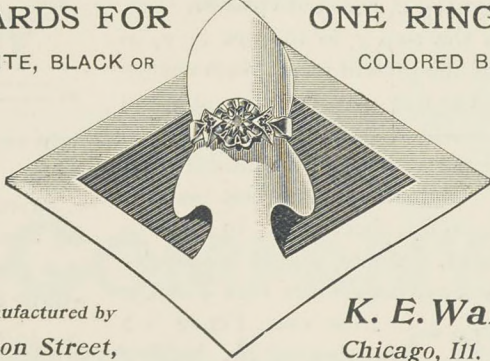
THE KEYSTONE,

19th and Brown Streets, Philadelphia, Pa.

BOYDEN RING TRAY

PATENTED JULY 16, 1895.

CARDS FOR ONE RING.
WITH WHITE, BLACK OR COLORED BACKGROUND.

50 cts.  **Per Dozen**

Manufactured by
134 Madison Street,

K. E. Wallace & Co.
Chicago, Ill.

FOR SALE BY THE TRADE.

P. ALLEN TAFT,

SUCCESSOR TO
ROCKFORD WATCH CASE COMPANY,
ROCKFORD, ILL.

Maker of

Gold and Silver Watch Cases.

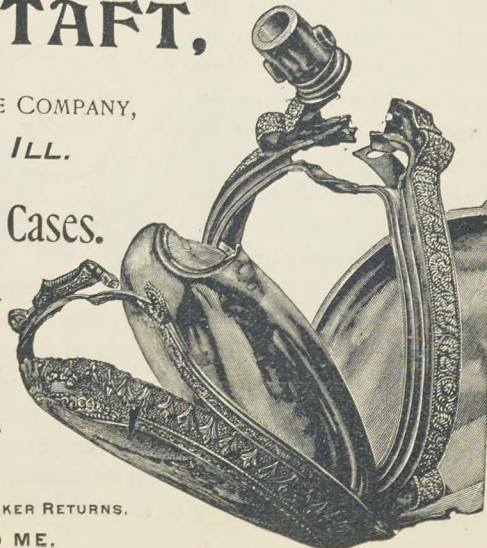
HAND-MADE CASES
for Odd-Sized Movements a Specialty

The Crowning Feature of this business
for fifteen years has been WATCH CASE
REPAIRS.

We are now better prepared than ever to
do Watch and Watch Case Repairing.

BETTER WORK. LOWER PRICES. QUICKER RETURNS.

SEND YOUR JOBS TO ME.



COMPLETE, ONLY **\$5.00**

\$76 a

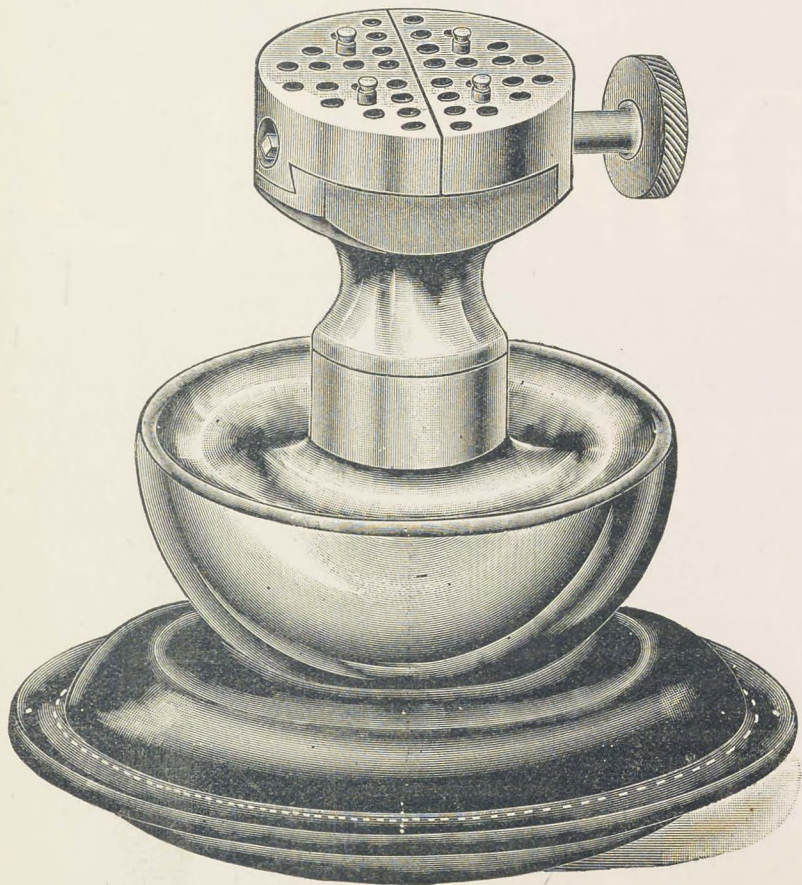
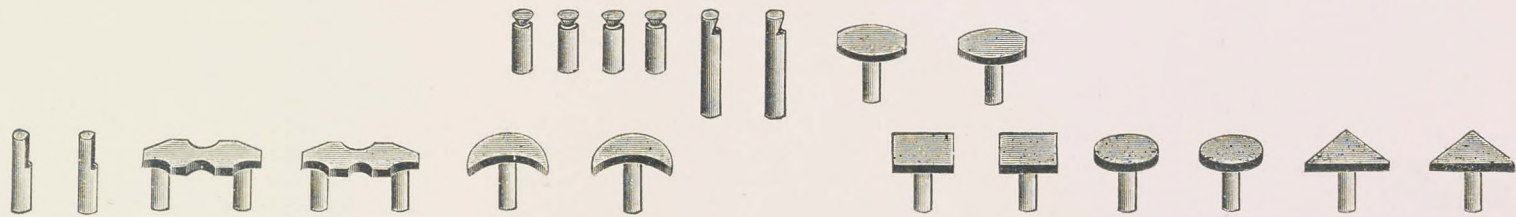
No. 2 Improved King Bee Engraving Block

INCLUDING LEATHER PAD AND 20 ATTACHMENTS.

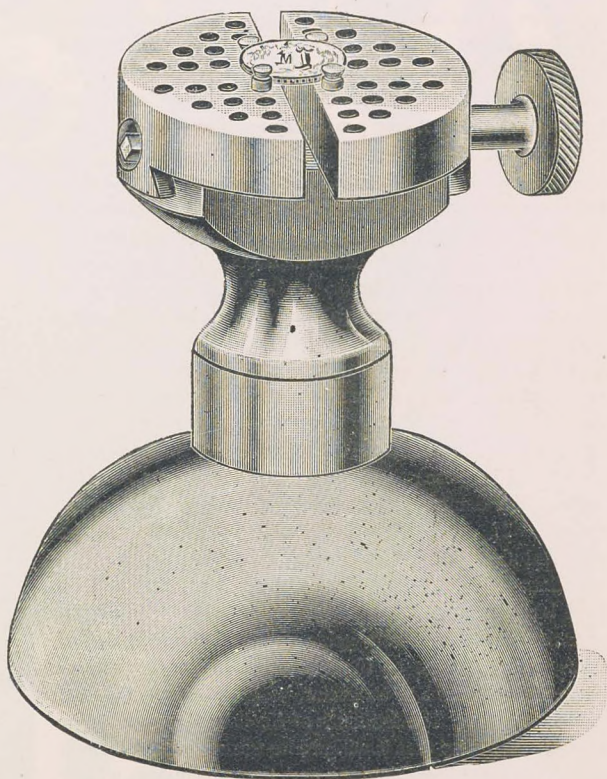
BEST BLOCK FOR THE MONEY
EVER SOLD.

SOLD BY JOBBERS.

HANDY AND COMPLETE FOR
WATCHMAKERS' USE.



SHOWING THE BLOCK COMPLETE WITH BALL BASE ON RING PAD.



SHOWING THE BLOCK WITH FLAT BASE.

The newest, most perfect, most practical and best finished Engraving Block on the market to-day for the money. It is complete in every particular. The above illustrations show the Block on a flat base, also on a ball base with ring pad. It can be changed from ball to flat base in an instant. It has twenty attachments, all nicely finished. This Block is nickel-plated, holds everything that the high-priced ones hold, and its price is about one-third that of other makes. Price, complete, with attachments and ring pad as described, **\$5.00.**

ORDER OF **B. F. NORRIS, ALISTER & CO.**

WRITE FOR OUR NEW 1897 ANNUAL PRICE-LIST,
IF NOT RECEIVED.

113 & 115 State Street, Chicago, Ill.

A STANDARD WORK

The **American
Newspaper
Directory**
For
1896

A book of 1390 pages, containing a brief description of each place where a newspaper is published, the **population, railroads, county, local industries,** etc. Gives a complete description of each and every newspaper published in the United States and Canada, day of issue, size, editor and publisher's names, circulation, politics or class. Also valuable and trustworthy statistics and tables. It is a veritable cyclopedia and is relied on by

The Departments at Washington, Railroads, Politicians, Advertisers, and all interested in newspaperdom.

PRICE, FIVE DOLLARS.

GEO. P. ROWELL & CO., Publishers,
10 Spruce Street, NEW YORK.

Gold Initial Rings.

INTERCHANGEABLE.

(Screw in back.)

STANDARD QUALITY.



\$4.25

according to Keystone Key.

(Usual \$6 Keystone Key quality.)

Write for samples of this and heavier qualities.

Diamond Mountings, Mounted Goods and Rings of every description.

Selection packages to reliable dealers. Be explicit when ordering.



No. 421. \$2.25.

An extra 5 per cent. in dozen quantities.

All these prices less Keystone Key.

Standard
Quality.
Warranted.



No. 422. \$3.00.

Write
for
samples.



No. 423. \$3.75.

Size
of
cuts.

L. Witsenhausen
37-39 Maiden Lane.
N.Y.

Factory, Newark, N. J.



WESTERN BUREAU OF THE KEYSTONE,
ROOM 811,
COLUMBUS MEMORIAL BUILDING,
CHICAGO, October 24, 1896.

Only seven more business days between now and election. Trade has practically come to a standstill, and there will hardly be any change until after the result is known. Everything waits the counting of the ballots. But this is only temporary, and will soon pass over. From every quarter come the good tidings of returning business activity. In striking contrast to the dullness in other branches of business has been the active buoyancy of the wheat market for ten days past. Last Saturday wheat was $73\frac{1}{2}$ cents; on Monday it brought $79\frac{3}{4}$ cents; to-day it is back to last Saturday's quotation, $73\frac{1}{2}$ cents. Never before in the history of the Chicago grain trade have such huge quantities of the cereal products of the prairies been poured into this market. In four days last week 10,000,000 bushels of grain of various kinds came in over the Western railroads centering at Chicago. These are facts that cannot be gainsaid, and betoken prosperity for this Western country beyond a doubt.

The steady gains in market prices for wheat and farm products generally, together with the fine seasonable weather of the past month, have greatly encouraged the people and merchants of the Northwest. While conservatism is still a prominent factor, the buying shows more confidence and an increasing demand for goods. Reports from traveling salesmen indicate that little by little there is a growing improvement in trade, somewhat in spurts, to be sure, but none the less grateful in that it betokens a return to that activity which every interest desires, and which will again induce prosperity. The fall season is rapidly advancing toward its close; the holiday season will soon be upon us, and the demands of consumers, long withheld, must enlarge. If confidence becomes assured, it can be expected that the late fall and holiday orders will be so abundant that our wholesalers and manufacturers will be kept busy early and late to fill them. The commercial agencies report moderate gains all along the line, and in nearly every section of the country. In some quarters collections are said to be easier, while in others they are said to be slow. The tendency of the hour is toward better things. We trust that it will not be turned backward next week, but rather that the long and fierce campaign will be settled happily. Then we shall expect to see every one's face once more turned toward business, and the return of confidence to be instantaneous everywhere as the announcement of the election is received.

We think it is generally conceded that the souvenir spoon craze has had its day. We hear of one place, however, where it is different. Down in Canton, which everyone knows is in Ohio, Jeweler Walter Deuble brought out a McKinley spoon of handsome design early in the present season, which will undoubtedly prove a record-breaker as a souvenir fad. This spoon has enjoyed a great sale among the crowds of visitors that have thronged Canton for the past four months, Mr. Deuble having sold altogether over 10,000 to visitors and to dealers. This is certainly a wonderful sale, and we doubt if any other spoon gotten out by an individual jeweler ever had as great a run, even in the palmiest days of the souvenir craze. As each spoon averaged over one dollar apiece, the Deuble store has managed to do a mighty fine business this season in spite of the political campaign.

Personal Mention.

W. C. Bryan, well known in the trade as a former buyer for Hyman, Berg & Co., but for the past two years engaged in the insurance business, is again contemplating entering the jewelry business.

M. Burgy, retail jeweler, now located on Eighteenth Street near Wabash Avenue, will remove to a handsome new store at 1738 Wabash Avenue, November 1st. Mr. Burgy will have a modern establishment, with new fixtures throughout.

Seth E. Thomas, of New York, head of the Seth Thomas Clock Company, spent a week in town the early part of the month, looking over the business of their Chicago office. Mr. Thomas is one of the most genial of men, and has many friends in the trade here.

L. S. Vognild, son of Erik L. Vognild, retail jeweler, of 1144 Milwaukee Avenue, and L. E. Haugen have formed a partnership as engravers at 1309 Champlain Building.

The Atlas Watch Company, of Chicago, were licensed last week to become incorporated with a capital of \$2,500. Carlos S. Hardy, Maris T. Kendig and Julius Moses are named as the incorporators.

Lamos & Co. have recently incorporated, with Charles W. Jackson, Robert W. Jackson and Mamie Quirk as incorporators. Charles W. Jackson was manager of the old company for many years previous to Mr. Lamos' death.

On the evening of October 15th Theodore Gribi, the well-known Chicago watchmaker and horologist, opened the course of lectures to be given before the American Horological Society in the Y. M. C. A. Building in Chicago, with the first of a series of six illustrated lectures on Adjusting. Over thirty watchmakers were present, besides a number of other gentlemen connected with the trade. The lecture occupied about two hours. Mr. Gribi is a pleasing speaker, and his method of treating his subject was thorough and exhaustive. He showed himself a careful and attentive student of all the well-known authorities on horology, and exhibited the rare gift of telling what he knew in an interesting style. Mr. Gribi's other five lectures will be delivered November 19, December 17, January 21, February 18 and March 18. The other lectures of the course are scheduled as follows: April 15, Edmund T. Allen, M.D., Ph.D., on "Optics and Its Relation to Watchmaking"; May 20, H. E. Duncan on the "Escape-ment of the Waltham Watch"; June 17, Grant Hood on the "History of Timepieces"; and July 15, W. J. Wilson on the "United States Government Time Service."

The Chicago *Inter-Ocean* has again been publishing the removal of Spaulding & Co., Chicago's widely-known retail house, from their present location at State and Jackson Streets. This time it is to the old Partridge Building, on the west side of State Street, between Washington and Madison Streets, which is now being completely remodeled and made into one of the finest mercantile buildings in the city. In speaking of the *Inter-Ocean* article, Mr. Lloyd Milnor, vice president and manager of the Spaulding Company, said to THE KEYSTONE representative that there was no truth in it whatever, nor was there any foundation for its statements. Mr. Milnor further remarked that they were well satisfied with their present location; that the retail trade center was gradually going south on State Street, and that there certainly could be no better corner in town for a business like theirs.

Dr. H. M. Martin, president of the Chicago Ophthalmic College, returned the first of the week from his California trip, with improved health and spirits. The Doctor takes up his regular work again at the above institution with his November class, which begins soon after the election.

E. F. Baumgarten, Southwestern traveler for the Pair-point Company, came into their Chicago headquarters last week from a two months' trip through Missouri and Kansas. He reports a fairly good trade in that territory, considering the times, and expressed confidence that there would be a marked improvement in business there after the election.

William B. Hopkins, salesman with Otto Young & Co., was married September 30th to Miss Mamie Bates, of Oak Park, beginning housekeeping at once on the North Side. The popularity of Mr. Hopkins among his associates with the above firm was evidenced by a gift from them of a handsome silver tea set of seven pieces, as well as a number of individual gifts.

A. C. Becken is up and about business again, after being confined to his home for over a month by a severe illness. The fine weather of the past week has been improved by short hunting and fishing excursions upon the part of Mr. Becken, and he tells us he is rapidly regaining his former strength, all of which will be pleasant news to his many friends in the trade.

The family of Julius Schnering, managing partner of Otto Young & Co., leave for Southern California, November 1st, where they will spend the winter. The trip is made necessary on account of the health of Mr. Schnering's little daughter, who has been ill since the early part of the present year, and Mrs. Schnering goes to a milder climate with the little one upon the advice of their family physician.

Z. E. Chambers, of B. F. Norris, Alister & Co.'s force, returned this week from a month's trip, which included parts of Illinois, Missouri and Kansas. Mr. Chambers reports making some good sales, but that, generally speaking, the jewelers are still pursuing a hand-to-mouth policy in their buying.

D. H. Brookins, formerly watchmaker with Shourds, Adcock & Teufel, has embarked in the repair business at 52 Randolph Street, Central Music Hall Building.

Geo. W. Church, for over ten years manager of the Chicago office of the Seth Thomas Clock Company, has resigned. F. E. Miles, bookkeeper in the same office, is in charge, pending the appointment of a successor to Mr. Church.

Eugene McDonald, of the F. E. Morse Company, has recently returned from a hunting expedition up among the wilds of Northern Wisconsin.

A first-class man of experience, well recommended, who is at present holding a confidential position with a prominent wholesale jewelry firm of Chicago, desires a position as credit and confidential man with some wholesale or manufacturing house in the jewelry or kindred lines, on or before January 1, 1897. Best of reasons for making a change. All communications considered confidential. Address "Business," Room 811, Columbus Memorial Building, Chicago.

A. W. Crawford, of G. W. Marquardt & Sons, is enjoying a vacation in New York.

F. E. Behrendt, of B. F. Norris, Alister & Co., is being congratulated by his friends upon the advent of a little new woman at his home, October 17th.

Howard L. Roberts, secretary and treasurer of the Keystone Watch Case Company, Philadelphia, was in town the first part of this week, and was warmly welcomed by his friends here. Mr. Roberts continued his itinerary to St. Louis and Kansas City before returning East.

Harry Hahn, of H. F. Hahn & Co., gave a parting dinner to his associates in the house on the evening of October 10th. The affair was in honor of Mr. Hahn's marriage, which occurred the 14th inst.; and though what is commonly called a "stag party" it was a most interesting and happy function, and was thoroughly enjoyed by all those present.

E. V. Clergue, New York manager for the E. Howard Watch and Clock Company, was in town last week, calling on his friends among the Chicago trade, who gave him the "glad hand" with true Western warmth and enthusiasm.

Ives L. Lake, of the Waltham Watch Company's Chicago office, returned last week from a pleasant two weeks' vacation, spent at his old Connecticut home.

Louis Manheimer is absent on an Eastern business trip. He returns home November 1st.

J. H. Mather, Chicago manager for Geo. H. Fuller & Son, is absent on a business trip to New York. He is expected home next week.

Morris Eisenstadt, of the M. Eisenstadt Jewelry Company, St. Louis, was in town for a few days recently, enjoying some whiffs of life in the Western metropolis.

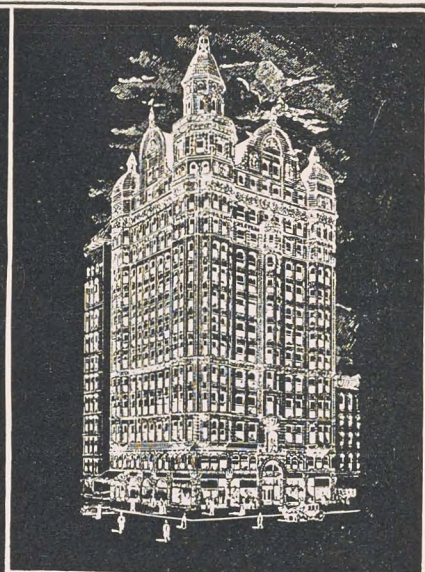
W. S. Buker, who formerly conducted a retail jewelry business at West Pullman, has recently succeeded to the business of W. S. White, at 9243 Commercial Avenue, South Chicago.

Fred. Tholer, the well-known West Twelfth Street jeweler, returned last week from a fishing excursion up in Wisconsin.

The B. F. Norris, Alister & Co.'s new fall catalogue is out, and it is a beauty of 560 pages, graphically illustrated on every line of importance or possessing novelty. The pages are devoted to an extended showing of such goods as the up-to-date jeweler will find it necessary to order so as to keep up with the times. It shows a marked improvement in their greatly extended line over any previous trade list issued by this firm. Jewelers everywhere will find this catalogue a most handy book of reference, and very useful in helping to increase their sales. It is rather large to mail, but will be sent by express prepaid to regular jewelers everywhere. The edition is 10,000, of which 7,800 have already been sent to the trade. The cost to produce this large edition has been about \$10,000.

The "A. B. C. Illustrated Price List for 1897" is the title of the new fall catalogue issued by A. C. Becken, of 103 State Street, Chicago. It is the handsomest and most complete trade list this house has ever presented to the jewelry trade. The pages have been enlarged to standard catalogue size, which of itself is a splendid improvement over the former Becken books. Each line has also been enlarged; more space given to every department, and in many other features it will be found more attractive and useful to the jeweler than ever before. The book contains 568 pages, printed on good heavy paper, and is well calculated to stand the usage that jewelry catalogues usually get. Mr. Becken finished out his list this week, and is already receiving gratifying results in the shape of orders from his new book.

(Continued on page 876 d.)



C.H. KNIGHTS & CO.,

Importers
of

• DIAMONDS •

Columbus Memorial Building

• CHICAGO •

Goods sent
on approval
to responsible
dealers.

Chicago News.

(Continued from page 876 b.)

Out-of-Town Visitors.

W. F. Poole, of St. Anne, Ill., was buying goods in this market recently.

C. J. Linden, of Kankakee, Ill., was a trade caller here last week.

Jeweler F. J. Cook and wife, of Janesville, Wis., were recent trade visitors in Chicago.

L. J. Baker, of Muskogee, I. T., was a recent trade visitor in town.

M. V. B. Elson, one of the best known among Sucker State jewelers, for years located at Freeport, was in town last week, calling on his friends in the trade.

Among the many jewelers buying in this market the past month was J. F. Lindall, of Moline, Ill.

S. E. Hall, of Hampton, Iowa, was a recent buyer in this market.

C. E. Mann, of Mason City, Iowa, was in town the early part of the month, calling on his friends in the trade. He was en route home from an Eastern trip.

Earl Underwood, of Arkansas City, Kan., was buying goods in this market the early part of the month.

G. M. Emery, of Traer, Iowa, was in town recently, making a selection of fall novelties.

Dr. Corbett, optician, of Plymouth, Wis., was a trade caller in this market recently.

Dr. I. N. Smith, optician, of Toluca, Ill., was a recent buyer in this market.

Jeweler O. F. Burgess, of Yale, Mich., was in town the early part of the month, en route to New Mexico, whither he goes for the benefit of his health.

Orr L. Keith, of West Branch, Iowa, was seen in this market recently, making a selection of fall novelties.

Dr. M. G. Benedict, optician, of Cleveland, Ohio, was a recent trade caller here.

A. H. Whitman, of Monink, Ill., bought goods in this town recently.

W. E. Counter, of Three Rivers, Mich., was buying goods in this market last week.

C. R. Sherman, of Libertyville, Ill., was a trade caller in town last week.

J. H. Johnson, of Bristol, Wis., was in town recently, buying goods.

H. Siebel, of Saginaw, Mich., has been in town this week, laying in a supply of the latest fall novelties.

C. C. Cleis, of South Bend, Ind., was met in one of our jobbing houses last week, and remarked that though trade was more than usually dull for the fall season in his town, they were all looking forward to November for a revival of trade.

J. A. Seekatz, of Hoopston, Ill., was a pleasant caller at KEYSTONE headquarters this week. Like many other jewelers, Mr. Seekatz is giving up much of his time to the optical department of his business. He told us he was finding it profitable and very interesting, and also remarked that the optical department of THE KEYSTONE was most helpful to him, and certainly was growing brighter and more interesting with each issue.

E. L. Marsh, of Fort Dodge, Iowa, accompanied by Mrs. Marsh, was a trade caller here this week.

Charles Humston, of Goodland, Ind., bought goods in this market last week.

Dr. W. F. Hayes, optician, Janesville, Wis., was a buyer in this market recently.

L. O. Gale, of Mitchell, S. Dak., is buying goods in town to-day.

Gossip Among the Trade.

The members of the Jewelers' Council, No. 316, of the National Union, gave their second six o'clock dinner on the evening of October 3d. It was a most enjoyable affair to all present. The National Union is a mutual insurance society, and the Jewelers' Council is made up of members from the jewelry and kindred trades of this city. Secretary Chas. E. Hodge reports the above council in a flourishing condition. It meets in their hall in Masonic Temple every first and second Saturday evening of each month.

A young man, of good address and six years' experience desires a position as salesman and window-dresser with a first-class house. Can do letter and monogram engraving well. Address, N. P. Dean, 30 Forty-fourth Place, Chicago.

Benj. Allen & Co.'s catalogue has been delayed somewhat in its publication, but the trade can depend upon receiving this standard trade list November 1st, or very soon thereafter. Mr. Allen assures us that it will surpass any

of their previous issues in handsome appearance and general arrangement; that it will prove an acquisition to any dealer's desk. This firm also issues a large and complete tool and material catalogue, which they send to regular jewelers upon request.

The jewelry firm of Johnson & Shepard, Hannibal, Mo., has been dissolved, A. S. Johnson succeeding to the business of the firm. Carl S. Shepard has formed a partnership with his father under the firm name of Shepard & Son, and embarked in business at Gibb's old jewelry stand in Hannibal.

We are glad to note that clock collecting bids fair to supplant the teapot collecting fad for this reason, it will certainly help the jeweler's sales. Almost any jeweler has many pretty and novel designs suitable for this purpose. Our big State Street stores are displaying some new designs of clocks mounted in gold, silver, crystal and leather, that are in good demand among the collectors.

Swartchild & Co. are sending out their new illustrated catalogue of tools and jewelers' supplies to the trade this week. Their book is larger and more complete than ever, and will prove a useful trade list to every jeweler.

Beginning with October 1st, the 2,100 employees of the Elgin Watch Factory began working five days, or fifty hours, per week, instead of four, as for a month past. This means a good deal to the people of Elgin, and they are consequently happy.

One of the most unique and taking novelties we have seen this season is the silver disque manufactured and sold by Spaulding & Co., and gotten up after the style of our silver dollar coins, only it is much larger and contains 823 grains of coin silver, which was the equivalent of a gold dollar in value, based on the market value of silver, September 16, 1896. They are sold at \$1, and are in great demand, in fact, the above firm cannot near keep up with their orders. It is in great favor with sound money speakers all over the country, such orators as Burke Cochran, Theodore Roosevelt and others using them in their orations as illustrations. It costs Spaulding & Co. five cents to manufacture each piece, as well as the cost of the die, so that they are making no profit in the sale of the disques; rather it costs them money, but they consider their sale a good investment for them as a splendid advertising scheme.

"I am glad to read in the press dispatches of late date," remarked Bernard Redepinning, retail jeweler at 726 West Madison Street, Chicago, "that Lord Li, nephew and adopted son of Earl Li Hung Chang, the great Chinese Viceroy, whose recent tour of this country will be easily recalled by KEYSTONE readers, is to succeed the present Chinese minister at Washington at the expiration of his term, seven months hence. Li accompanied the viceroy on his recent tour. He is about forty years old, and a most interesting man, as I well remember. It was through one of London's big jewelry firms, with whom I was employed as watchmaker, inventor and designer of timepieces, that I was introduced to Lord Li while he was ambassador to the Court of Saint James some years ago. His fad was watches. He was also a famous collector of chronometers and unique clocks. Both from the standpoint of intrinsic value and historic worth he has one of the finest and most valuable collections of timepieces known. I often enjoyed the company of the Count in visiting, incognito, jewelry stores, auction sales and second-hand stores, looking over stocks of timepieces for anything that might strike his fancy and add to his collection. Before purchasing I was always consulted, and the timepiece thoroughly examined by myself. If it was a relic of past centuries, I established the authenticity of the claim. Lord Li's collection comprises everything conceivable in the timepiece line. Watches of the elaborate workmanship of the early French Empire; watches from Japan and China, which, from their appearance, antedate Confucius; square watches, oblong watches; iron watches with two faces, one for time and the other showing the sun, moon and the stars; watches no larger than the end of a lead pencil, and watches made of wood, works and all, are his. Of watches formerly the property of notable men Lord Li has a big collection, the most esteemed being one which was once the property of Gen. U. S. Grant. The watch Murat formerly carried and one formerly the property of the Mikado of Japan are prized next. Lord Li was very kind to me during his stay in London, and as a mark of esteem appointed me watchmaker and repairer extraordinary to the Chinese Legation at London, Paris and St. Petersburg. Besides, upon his return to China he sought to have me accompany him. My duties would have been simply to attend the Count's collection of watches and oversee the repairs to the naval

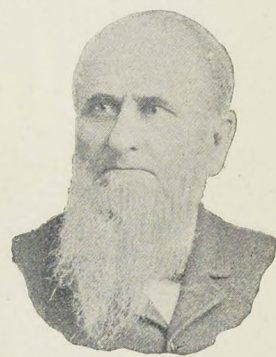
instruments and the timepieces at the Chinese Court, but I did not go, as I preferred America. I am sorry to say I have since regretted this action."

Matrimonial.

HAHN—KOHN.—One of the most attractive and happy home weddings that has occurred in Chicago for some time, and one which KEYSTONE readers will be more than a little interested in, for the reason that the groom is one of the rising and best-known young members of the trade in the West, was that of Mr. Harry W. Hahn and Miss Daisy Kohn, which took place at six o'clock on the evening of October 14th, at the home of the bride's parents, 2018 Calumet Avenue, this city. The bride, who is a last year's debutante, is the daughter of J. A. Kohn, one of Chicago's most widely known and wealthiest citizens, and is a beautiful young woman of rare accomplishments and stylish figure. The groom is the son of H. F. Hahn, head of the house of H. F. Hahn & Co., one of our leading firms in the wholesale jewelry trade, who is a fine-looking, manly fellow. The wedding was a strict family affair, only relatives of the contracting parties being present. The ceremony began at six o'clock, and Dr. E. G. Hirsch read the service. The mandolin orchestra of Valisi gave the strains of Lohengrin as the bride and her attendants entered the drawing-room. The beautiful floral garniture of the house was all in pink and white, with masses of asparagus fern for contrast. The bridesmaids were Miss Marion Hahn, Miss Florine Kaiser, Miss Cora Katz and Miss Edna Ederheimer. They all wore gowns of white over pink, and held La France roses. The bridal costume was of heavy white satin duchesse, enhanced by trimming of costly point. A veil was worn, and the wedding flowers were lilies of the valley. M. H. Lebolt supported the groom as best man, and G. T. Bauer, E. J. Hahn, B. F. Rubel and A. H. Kohn were the ushers. The parents of the bride and groom assisted at the reception which followed the ceremony. Kinsley served a banquet for over one hundred guests. The company were seated at a number of small tables, faced by the bridal party, who were seated at a large square table and presented a most unusual but very happy sight. At the right of the groom sat Grandfather John Hahn, aged 80; on the left of the bride sat Grandfather Marx Joseph, aged 80, also a grandfather of the groom. All of the above sat at the head of the bridal table. On one side of this table sat the mother and father of the groom, on the opposite side sat the mother and father of the bride. The presents were numerous, costly and beautiful. Mr. and Mrs. Hahn left the next day for a wedding trip, which will include a number of the Eastern resorts. They will return to Chicago about the middle of next month, and will be at home to their friends after December 1st, at 2018 Calumet Avenue.

Obituary.

There died suddenly at his home in Chicago, October 8th, the pioneer traveling salesman of the West—Charles Jeanneret. Had he lived through December he would have finished his thirty-third year on the road, having begun his first engagement as traveler early in the year 1864 for the house of M. Kroneberg, of Chicago. He belonged to the old school of travelers, whom it was always a pleasure to meet. His genial, kindly face and hearty handshake will be missed by a very large circle of trade acquaintances all over the West, for he was popular and widely known. Mr. Jeanneret's death was sudden and unexpected by his friends, though he had complained of not feeling well for several months. The day he died he came down to the office of his firm—the Juergens & Andersen Company—at his usual hour. He soon complained of not feeling well, but managed to stay the forenoon out. At two P. M. he left his work, saying he would have to go home. He arrived at his house about three o'clock, finding no one at home but their servant, Mrs. Jeanneret having gone down town. He said to the servant that he felt very ill. She assisted him to a sofa and immediately started for the home of his son, a few doors distant. Before she and the son's wife returned he had expired, his death occurring within five minutes of the time of his arrival at his home. Bright's disease is



Charles Jeanneret.

(Continued on page 876 f.)

"Atlas" Watch Movements

AMERICAN MANUFACTURE.



6 Size Atlas.
7 jewel, stem-wind, quick train, nickel,
damaskeened, **Pendant Set.**
Price, \$4.00,
according to Keystone Key

The
Wonder
of the
Age



Greatest
Value
for the Money
Ever Offered



18 Size Atlas.
7 jewel, stem-wind, hunting, lever set,
quick train, nickel, damaskeened.
18 Size, O. F., **Pendant Set.**
Price, \$3.50,
according to Keystone Key.

WRITE YOUR JOBBER FOR SAMPLES.

ATLAS WATCH COMPANY,

(INCORPORATED,)

Columbus Memorial Building,

103 State Street, CHICAGO, ILL.

ELGIN MOVEMENTS

BOSS FILLED CASES

Agents for

Rogers & Bro.'s Flat Ware

and

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938 Market Street
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No. 31 XL



No. 107

OUR THIMBLES
ALWAYS SELL

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Gold
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CORRECT STYLES at right prices.
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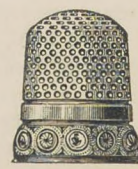
SIMONS, BRO. & CO.

Silversmiths and Manufacturing Jewelers

PHILADELPHIA
NEW YORK
CHICAGO



No. 50



No. 33 A C

Chicago News.

(Continued from page 876d)

given as the reason for his sudden taking off. Mr. Jeanneret was born at Franklin, Mo., seventy-one years ago. His father, Charles E. Jeanneret, came to St. Louis in 1818 from Switzerland, and was one of the first watchmakers to locate west of the Mississippi. By the time the son had reached manhood he had served a thorough apprenticeship at watchmaking, and for a number of years afterward followed the retail jewelry business. He first moved to Chicago in 1860.

His first engagement was with Hoard & Hoes, one of the leading Lake Street retail firms of that day, where he remained as watchmaker until the beginning of 1864, when he began his first experience "on the road" as traveler for M. Kroneberg. His territory was "everything west of Chicago." That meant a great deal, even in those days, for traveling in that part of the West was fraught with hardships that are never dreamed of by the drummer of to-day. It meant, in the language of Mr. Jeanneret himself, "genuine hard work and many privations, that in comparison the life of a traveling jewelry salesman is a veritable picnic." There was only one railroad in Wisconsin built as far as the Mississippi, La Crosse being the terminus; only three in Illinois running west from Chicago, their terminals being at Galena, Rock Island and Quincy; and only one line reached the Missouri, the Hannibal and St. Joseph, at St. Joseph. West of these points all traveling was done by stage, and as Mr. Jeanneret covered the States of Iowa, Minnesota, Kansas and Nebraska, he did a large amount of his traveling by the stage-coach route.

He remained with M. Kroneberg two years, when a flattering offer from his old firm, which was then known as Matson & Hoes, took him back to them to take the position of road agent, with which firm he remained for eight years, traveling in the same territory. His next engagement was with Juergens & Andersen, of Chicago, now the Juergens & Andersen Company, with whom he has filled the position of Western traveler since 1877 with success and credit to himself and dignity to his house, numbering many of his customers as personal friends of long standing, who will read of his death with genuine sorrow. He leaves a wife, and two sons who are well-known Chicago business men. The funeral was held from his Webster Avenue residence, October 10th, the interment being at Graceland.

Northwestern Notes

J. B. Hudson, Minneapolis, Minn., who was East for two weeks in search for bargains in fall novelties, has returned.

C. C. Clausin, who conducted a small watch repair shop on East Franklin Avenue, Minneapolis, Minn., owing to dull trade has closed up his business there and accepted a position as watchmaker with S. E. Olson & Co., same city.

Robert Reed, of the Reed-Bennett Co., Minneapolis, Minn., is building a large addition to his residence out on Lyndale Avenue, and remodelling the old part, converting the house into practically a new building of modern design. The interior decorations will be of the finest and newest designs.

T. W. Estabrook, of Minneapolis, Minn., has opened up in business at No. 2 West Lake Street, that city. Mr. Estabrook for the past three years was a traveling salesman for various lines, but recently concluded to go back into the jewelry business.

L. S. Weller, who was formerly located in the jewelry business in the city of St. Paul, Minn., and retired from the business there a year ago, has opened up in business in Minneapolis and occupies one of the finest store rooms in the city, at 241 Nicollet Avenue.

The employees of Rentz Bros., manufacturing jewelers, of this city, made and presented to W. J. Bryan, on his recent visit to this city, a fine ink well, with stand and pen-rack. The well was made of sixteen silver dollars and one gold dollar. The stand was inscribed as follows: "Use me when you sign the free silver bill 16 to 1." Mr. Bryan received a gold pen with silver holder also, and stated that all he needed now was the ink—presumably meaning the votes necessary to be elected.

T. Weld, of Weld & Sons, Minneapolis, Minn., recently returned from a business trip to the East in the interest of his firm.

H. H. Freudenfeld & Co., opticians, have opened a fine suite of rooms at 237 Nicollet Avenue, Minneapolis, Minn., for the transaction of business.

A. E. Sawyer, of Faribault, Minn., accompanied by his daughter, an accomplished young lady, was in Minneapolis, Minn., recently combining business, with pleasure and sightseeing.

G. W. Zink, of Prentice, Wis., was in Minneapolis, Minn., recently, purchasing his fall stock, and placed an order for some new show cases and trays for a complete new outfit. Mr. Zink is a prosperous young business man, and success, no doubt, will crown his efforts.

San Francisco Letter.

Fred. A. Jeane, the popular representative of A. H. Smith & Co., New York, visited this city with a very fine assortment of precious stones. He was well received by his many friends in the trade.

Fred. Roth, the brilliant salesman for S. & M. Kahn & Co., New York, diamond merchants, was rewarded with a fair business in this city, which he visited last month.

O. Size Lowenthal, the ever wide-awake traveler for A. Eisenberg & Co., returned from a lengthy trip through the Northwest. He remained home only a few days, and is now visiting his Southern territory.

Geo. W. Powell, well known throughout the country as the California Jewelry Co.'s senior traveler, is out among his Northern customers. He has a large stock of goods with him.

J. Marx, representing Kossuth Marx Jewelry Co., New York, visited this Coast last month. He reported business as fair.

H. J. Hooper, well known as the most successful jewelers' auctioneer on the Pacific Coast, remained in this city for two weeks, to rest up a little.

M. L. Levy visited Los Angeles last month on a short business trip.

A. Eisenberg, the well-known jobber of this city, enjoyed a little vacation from business last month by a trip with his family to Santa Barbara, to attend the wedding of his brother-in-law.

M. Rosenberg, of Los Angeles, formerly of this city, committed suicide last month. The deed was attributed to temporary insanity.

Mr. Haskell, of Haskell & Muegge, is now visiting his Southern trade. They have just added to their numerous other lines that of H. H. Curtis & Co., North Attleboro, Mass., silversmiths.

Tillie Nordman, daughter of Joe Nordman, is now on her way home from Europe, where she has been during the past two years, completing her studies. She will remain in New York for a few weeks with friends before continuing her journey home.

It is announced that Adolph Nordman, of the Standard Optical Company, is engaged to be married to Miss C. Reiss, of this city.

Ernst Block, representing W. & S. Blackinton, the well-known chain house, is here with his fall line and doing a strong business.

Leopold Adler, a young traveler for a Philadelphia jewelry concern, was robbed of his sample case, which, it is said, contained about \$7000 worth of goods, while en route to Portland.

Mr. Limbach, representing Foster & Bailey, Providence, R. I., enjoyed a good business in this city, which he visited last month, bringing with him a very complete line of silver novelties.

J. Hogan, representing Bippart & Co., New York, was in town last month in the interest of his house.

E. S. Cogerin, has opened a manufacturing shop at Fresno.

M. Lucas, of this city, has taken a position as engraver for H. F. Wichman, Honolulu.

Palmer Bros., Baker City, have succeeded A. N. Gardener, who died recently.

Armer & Weinschenk report a very favorable outlook and a good business. "Owing to the advance in prices of grain and dried fruit the farmers are feeling much elated, and everywhere are the indications of the returning of prosperity."

The following jewelers have been in town the last month, purchasing fall goods: E. Meybem, Chico, Cal.; Geo. S. Howe, Grass Valley, Cal.; Jas. M. Jacobsen, Ferndale, Cal.; E. Dabrowsky, Redding, Cal.; D. A. Woodward, Hanford, Cal.; P. Christian, Antioch, Cal.; L. Katz, Sutter Creek, Cal.; G. Naher, Fresno, Cal.; O. Fromer, Livermore, Cal.; M. H. Osgood, San Jose, Cal.; Chas. Leggett, Merced, Cal.; F. J. Stumm, Benicia, Cal.; Al. Ewart, Ukiah, Cal.; Ed. Hass, Haywards, Cal.

Philadelphia Notes.

The people of this city believe so confidently in an after-election revival of business that the situation is improving, and the jewelers are preparing to make liberal purchases of stock. The leading retail stores report a fair business. Here as elsewhere, however, the wheels of business are being braked till after election.

S. Kind & Co. opened their new quarters at 926 Chestnut Street, on October 5th, and over 15,000 people visited the store on that day, and expressed their admiration of the large stock and handsome fixtures. These latter are of carved mahogany, with rich gold trimmings. The wholesale department is on the second floor. The souvenir presented to visitors on opening day was a memorandum book with celluloid cover, on the outside of which was the name of the firm in gold lettering.

The Philadelphia Jewelers' Club gave its first smoker of the season at its rooms, 924 Chestnut Street, on October 9th. The instrumental music was by Hartl's Orchestra and the Mount Vernon Banjo Club. Songs and recitations were given by talent from the local theatres. A large contingent of New Yorkers enjoyed the programme.

William D. Pinkstone, son of R. Pinkstone, is receiving the congratulations of his friends because of his recent marriage.

J. Albert Caldwell, of J. E. Caldwell & Co., recently returned on one of the American liners from a purchasing trip in Europe. He says that business in England is in a fairly prosperous condition, and that manufacturers are hopeful of an improvement in the near future. There has been a partial recovery from the temporary depression that followed the collapse of the London boom in South African and Australian gold mine stock. Mr. Caldwell reports the china industry as flourishing.

H. O. Hurlburt, of H. O. Hurlburt & Sons, returned from Europe recently on the "Kaiser Wilhelm," of the North German Lloyd line. During his trips he visited various points of interest in East Germany, and also spent some time in Venice and Naples. He thoroughly enjoyed the voyage, and feels that his health has been much benefited.

Beath & Joralemon, lapidaries, are located at 1037 Walnut Street.

John Mullen, formerly of S. R. Kamp & Co., is now traveling salesman for H. Muhr's Sons.

Riggs & Brother have moved their branch store from 1005 Walnut Street to 310 Market Street. The main store at 221 Walnut Street will be continued.

The Simons brothers, of Simons, Bro. & Co., are mourning the death of their aged mother, who breathed her last on October 21st. Mrs. Simons was a native and a lifelong resident of Philadelphia, and led an unobtrusive, retiring life, being greatly beloved and esteemed by all with whom she came in daily contact. Three sons and two daughters survive her. The funeral services took place at the house of her son, John F. Simons, on October 24th.

"I am a young beginner, and can plainly see how useful The Keystone must be to the trade, especially the question columns."—Chas. Leggett, optician, Kingsville, Ont.

Didn't Know When He Was Well Off.

The late Col. Æsop left behind him a highly instructive yarn about an enterprising dog which dropped a good, juicy piece of meat in the river by trying to seize the tempting but illusive shadow thereof.

We have just listened to the sorrowful tale of a merchant who had never read this little fable. He had an humble but highly lucrative business, in an unpretentious little store on a side street. He had a good, steady trade among the poor and middle classes, and he made stacks of money.

One day it occurred to him that he had outgrown all that sort of a thing, and that he ought to be a merchant prince, or something. So he leased a big store on the main business street and spread himself.

The result was that his old trade thought that he was putting on too many ruffles, and left him. He found that he wasn't in the same class with the big fellows on the big street, and wasn't at all fitted to do the class of business they did. He also found that, while he had a very nice store, he couldn't sell the goods, and the sheriff had to attend to that little detail for him.

The moral that Col. Æsop deduced from his fable fits this story like the paper on the wall.

—Brains.

THE AFTER-ELECTION BOOM

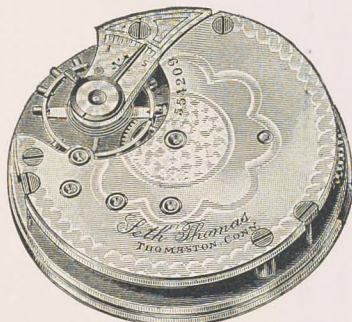
is almost here. Are you prepared for it? You will prepare to best advantage by ordering from us. Our inexpensive method of distribution adds to your profit. PROMPTEST ATTENTION TO MAIL ORDERS.



No. 1008. 18 Size, 15 Year, Filled, 10 K., Open-Face, Screw Back and Screw Bezel. Fitted complete with Seth Thomas Nickel Movement.
\$11.96, according to Keystone Key.
TERMS NET CASH.



No. 240. 6 Size, 21 Year, 14 K. Gold Filled, Hunting Case. Fitted complete with Seth Thomas No. 5 Nickel Movement.
\$16.56, according to Keystone Key.
TERMS NET CASH.



(Seth Thomas Name on Dials and Plates.)
No. 6. 18 Size, 7 Jewels, Nickel, Expansion Balance, Glass Enamel Roman or Arabic Dials, with marginal figures. Made by the Seth Thomas Co., and guaranteed to keep time as close as any 7 Jewel in the market.
Above movement fitted complete in Jointed O. F. light weight Silveroid Case, \$5.36 Net Cash.
Complete in 3 oz. O. F. Jointed Silveroid Case, \$5.80 Net Cash.
Complete in 10 K. 15-year Gold Filled Screw Bezel and Screw Back Case, fine patterns, \$12.50 Net Cash.



(Seth Thomas Name on Dials and Plates.)
No. 900. 18 Size, Nickel, 15 Jewels in Settings, Full Plate, magnificently Damaskened and Finished. Guaranteed in every particular, and a fine timepiece.
Above movement fitted complete in 3 oz. O. F. Jointed Silveroid Case, \$11.36 Net Cash.
Complete in 10 K. 15-year Gold Filled Screw Bezel and Screw Back Case, \$18.40 Net Cash.

Prices according to Keystone Key.

Prices according to Keystone Key.

A. H. POND, JOBBER OF Watches, Clocks, Silverware, Jewelry, Etc., 132 South Salina Street, SYRACUSE, N. Y.

Watchmakers! Watchmakers! Watchmakers!

The Philadelphia College of Horology

has few equals
and positively
no superiors.

F. W. SCHULER,
PRINCIPAL.

1213 Filbert St.,
Philadelphia, Pa.

Now is the time to make application for a bench. It is not the largest, but the **FINEST** school in the country, because we only take a limited number of students, and give each student our personal attention. Therefore we can guarantee you success. Write for our New Prospectus.

WE TEACH
Watchmaking, Engraving, Jewelry Work and Optics.

WE TEACH
you thoroughly all branches of the Jewelry Business.

David F. Conover & Co.

Jobbers in
American and Foreign

Watches

Diamonds

Optical Goods

Tools and Materials

Gold, Silver and Plated Goods

Chestnut and Seventh Streets
Philadelphia, Pa.

[illegible]



No. 1760. FLUTED TEA WARE.

**Manf'd and Guaranteed by
The MIDDLETOWN PLATE CO.**

The above is the stamp adopted by us for goods of our manufacture.

The *essential* point is *our name*. Wherever that is found it is a guarantee of the *Superior Quality* of our ware, and we will maintain it.

At the present time, with the market flooded with inferior goods of fictitious brands, the name of a reliable manufacturer is an essential safeguard in purchasing plated-ware.

We offer to the Trade our reputation for thirty years as such a safeguard. We are making new and elegant designs constantly.

**THE MIDDLETOWN PLATE CO.
MIDDLETOWN, CONN.**

22 John Street, New York

120 Sutter St., San Francisco, Cal.

A DROP IN PRICES.

COMPLETE WATCHES.

The Best, The Cheapest Watch Ever Made.

We want every dealer to know that we sell Ladies' Complete Watches AT PRICES NEVER EQUALED. New and elegant designs in Cases, 14 Karat and 10 Karat Gold Filled, made by one of the largest case makers, and warranted for 20 and 15 years respectively. Movements warranted good timekeepers and guaranteed, **American** manufacture, and **COST 50 PER CENT. LESS** than anything ever produced in this line.

ATLAS WATCH CO.

6 Size Movement.

7 Jeweled, Nickel Stem-Wind, American Make.

NEW GOODS. PRICE FOR COMPLETE WATCH.

PENDANT-SET.



Straight 14 Karat Gold Filled Cases,
6 Size, warranted 20 Years.

Straight 10 Karat Gold Filled Cases,
6 Size, warranted 15 Years.

NEW GOODS. PRICE FOR COMPLETE WATCH.

PRICES QUOTED ACCORDING TO KEYSTONE KEY, AND THE
USUAL DISCOUNT FOR CASH.



Assorted Patterns.
No. 100. 14 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$16.74.



Assorted Patterns.
No. 101. 14 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$16.74.



Assorted Patterns.
No. 102. 14 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$16.74.



Assorted Patterns.
No. 103. 14 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$16.74.



Assorted Patterns.
No. 104. 14 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$16.74.



Assorted Patterns.
No. 105. 10 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$14.20.



Assorted Patterns.
No. 106. 10 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$14.20.



Assorted Patterns.
No. 107. 10 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$14.20.

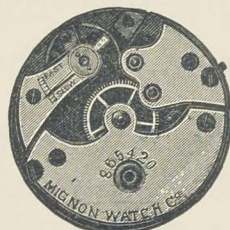


Assorted Patterns.
No. 108. 10 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$14.20.



Assorted Patterns.
No. 109. 10 Karat, 6 Size Case, with
Atlas Movement, complete, . . \$14.20.

All prices quoted according to Keystone Key,
and the usual discount for cash.



MIGNON.

O size. Nickel finish. Swiss movement. Guaranteed. Lever-setting. Jeweled.

SEND FOR OUR COMPLETE CATALOGUE.

All prices quoted according to Keystone Key,
and the usual discount for cash.



Assorted Patterns.
No. 110. 14 Karat, O Size Case,
with Mignon Movement, com-
plete, ... \$16.50.



Assorted Patterns.
No. 111. 14 Karat, O Size Case,
with Mignon Movement, com-
plete, ... \$16.50.



Assorted Patterns.
No. 112. 14 Karat, O Size Case,
with Mignon Movement, com-
plete, ... \$16.50.



Assorted Patterns.
No. 113. 10 Karat, O Size Case,
with Mignon Movement, com-
plete, ... \$13.90.



Assorted Patterns.
No. 114. 10 Karat, O Size Case,
with Mignon Movement, com-
plete, ... \$13.90.



Assorted Patterns.
No. 115. 10 Karat, O Size Case,
with Mignon Movement, com-
plete, ... \$13.90.

SEND ORDERS
to the Restless and Sleepless **B. F. NORRIS, ALISTER & CO.,** 113 & 115 State Street, CHICAGO.

Items of Interest.

The Lazarus Jewelry Palace on Cherry Street, Macon, Ga., held its annual fall opening a few weeks ago.

J. Harding, South Bend, Ind., has formed a partnership with Chas. A. Rinard, and the firm name is now Harding & Rinard.

Hulberg Brothers, of 1801 West Superior Street, Duluth, Minn., are advertising a sale of their stock, preparatory to a dissolution of partnership January 1st.

S. O. Bigney & Co., Providence, R. I., the well-known gold filled chain manufacturers, have adopted a new tag, which will be attached henceforth to all gents' chains shipped from their factory. The trade should be familiar with this tag, as it is at once a proof of genuineness and reliability.

Charles Forschner, White Haven, Pa., died suddenly a few weeks ago. He was born in Germany in 1828, and arrived in this country in 1847. After a number of changes he settled in White Haven. He was a capable business man of unswerving integrity, and enjoyed the respect of his townspeople.

The stock of the Freeman Jewelry Co., Atlanta, Ga., was sold by auction last month, Herman G. Briggs officiating as auctioneer.

The United States Manufacturing Co., Fond du Lac, Wis., are moving their plant into their own building, where they will have three times their former capacity. The United States cyclometers, odometers, etc., are evidently striding into popular favor.

The New York Standard Watch Co., 11 John Street, New York, are placing on the market a new electric clock. The motive power is supplied by a small dry electric battery located in the lower portion of the case. The clock occupies very little room, and is said to be a most satisfactory time-piece.

The Meriden Britannia Company, Meriden, Conn., have issued their catalogue No. 49 of gold and silver plate. It is one of the handsomest and most complete compilations of its kind ever issued to the trade, and no jeweler can well afford to be without a copy. It is ten and one-half by thirteen and one-half inches and has 124 pages, on each of which there are handsomely executed wood-cut and half-tone illustrations of the Company's varied wares. Any jeweler can have a copy on application.

An item in our last issue relative to the Van Bergh Silver Plate Co., Rochester, N. Y., was so worded as to convey the idea that this concern does silver-plating only. The Van Bergh Co. have been manufacturing a high grade of hollow ware since 1892, and their success is evidenced in their being compelled by growing business to move into a larger factory. Their products of silver-plated ware are rapidly growing in trade favor.

W. E. Morse, Danvers, Mass., has not gone out of business, as reported, nor has he any intention of doing so.

One of the most significant indications of the growing confidence in the after-election outlook is the announcement of the American Waltham Watch Co., Waltham, Mass., that their factory will be run on full time till further notice.

Dr. H. A. Thomson, South Bend, Ind., president of the South Bend College of Optics, is the compiler of a useful manual, entitled "How to Become a Good Optician." As a copy can be procured free on request, every intending optician should have one.

The following former students have returned to complete their course at Parsons' Horological Institute, Peoria, Ill.: Miss Gertrude Gates, Hamilton, Ill.; Z. A. Miner, Bushnell, Ill.; L. J. Carter, Aledo, Ill.; B. M. Burch, Streator, Ill.; J. G. Gardner, Maple Rapids, Mich.; F. C. Leonard, Menomonie, Wis. Among the new students who recently arrived at the school were W. T. Smith, Paducah, Ky.; Walter Akers, Saybrook, Ill.; Frank Mearis, Saybrook, Ill.; G. M. Eberly, Mechanicsburg, Pa.; O. N. Williams, Eakins Corners, Pa. Those who graduated at the last examination are L. E. Goodell, Jay E. Lanning, Marshall Kime, Edward Mehmert, C. F. McLaughlin. A new dormitory is now under way for this Institute, which, when completed, will have a reading room supplied with the best literature on watchwork, optics, etc., and students can spend their evenings conversing and studying the scientific problems of watchwork, etc. This will also enable them to board and room their students at very much lower figures than was possible to do outside of the dormitory.

Story of A Tea-Pot.

The genial and hospitable Mayor of New York City, Col. Strong, cannot forbear smiling every time his eye rests on a much-prized curio which lately was presented to him—a silver tea-pot with the inscription "Cold Tea" engraved on it. The tea-pot is a present from Joseph T. Homan, of the Homan Silver Plate Co., Cincinnati, Ohio, and its existence is thus accounted for. At a recent banquet in New York, at which Mayor Strong was present and which was presided over by the Hon. T. C. Campbell, of Cincinnati, the latter was asked if he had ever tasted the Mayor's "cold tea," and as he confessed he had not had the pleasure, he was permitted later in the day to sample it. New Yorkers were wont to say during the mayor's campaign,

"We want but little here below
And want that little *Strong*."

and Mr. Campbell confessed that a little of anything so strong as the tea was quite sufficient. On his return to Cincinnati he told the joke to Mr. Homan, and on his next trip to New York, Mr. Campbell was the bearer from Mr. Homan of the "cold tea" tea-pot. The Mayor is said to have viewed the pretty gift with admiration and to have winkingly ejaculated, "Well, I should smile."

Good Clothes.

Here is what a long-headed business man says about the importance of wearing good clothes as an aid to success: "After a long business career, my deliberate judgment is that it pays to wear good clothes fashionably made. I remember when, as a boy, I began my business career at six dollars a week. I was sent on an errand to the swell tailor's establishment of the city. After I had done my errand the tailor looked me over, and, noticing my country-made clothes, said to me that I ought to order a new suit. I explained to him my financial condition, when he said to me kindly: 'My boy, whatever it might cost, it would be the best business investment you could make. With fashionably cut garments on, your own confidence and self-esteem will be enhanced, and other people will think better of you,' and he generously offered to make me a suit and let me pay for it whenever I could, or not at all. He was right. It was as good an investment as I could have made."

To Recall a Letter.

The public is not as familiar with its privileges about postal matters as might be supposed. Many times people would like to recall a letter after it has been mailed. This can be done, even if the letter has reached the post office at its destination. At every post office there are what are called "withdrawal blanks." On application they will be furnished, and, when a deposit is made to cover the expense, the postmaster will telegraph to the postmaster at the letter's destination, asking that it be promptly returned. The applicant first signs this agreement: "It is hereby agreed that, if the letter is returned to me, I will protect you from any and all claims made against you for such return, and will fully indemnify you for any loss you may sustain by reason of such action. And I herewith deposit \$— to cover expenses incurred, and will deliver to you the envelope of the letter returned." In many cases persons have made remittances to fraudulent parties or irresponsible firms, not learning their true character until after the letter had gone, and have succeeded in recalling them.

—Boston Evening Transcript.

The III on the Clock Dial.

BALTIMORE, October 17, 1896.

GENTLEMEN: Will you kindly inform me through the columns of THE KEYSTONE why the watch and clock dials are marked to designate the fourth hour with four lines (III) instead of the mark IV? I have read an article some years since on the subject, but have forgotten it. By complying with my request, you will oblige a subscriber.

BALTIMORE.

It is a tradition among watchmakers that the first clock made that in any way resembled those now in use was made by Henry Vick in 1370 for Charles V. of France, surnamed "The Wise." Charles could not point out any imperfection in the clock, but to vindicate his title to "The Wise" he felt the necessity of finding some fault with it. "You have got the figures on the dial wrong," said the King. "Wherein, your Majesty?" asked Vick. "That four should be four ones," said the King. "You are wrong, your Majesty," said Vick. "I am never wrong," thundered his outraged Majesty. "Take it away and correct the mistake." Vick had too-much respect for his neck not to "correct" the mistake.

Expert Testimony.

especially when voluntarily given, possesses great value. The following unsolicited tribute to the superiority of the recent productions of the American Waltham Watch Co. is from the winner of the American jewelers' first prize for watch repairing, F. C. Ries, Macon, Ga.:

F. C. RIES, Macon, Ga. Winner of the American Jewelers' First Prize for Watch Repairing. Thirty-eight competitors.

AMERICAN WALTHAM WATCH CO.

GENTLEMEN:—Since the advent of your new sixteen-size watch, I have been talking up Waltham watches in preference to others, simply because their construction, according to my notion, is superior to others.

I am greatly carried away with your open barrel. I have figured out the following points of superiority your open barrel has over the old style, viz.: The end shake cannot be altered by spring breaks; the top cannot be marred by a poor workman filing off T hooks; there is no head to pop off and cause stoppage, as in the old style; watch runs fully one-third longer, on account of barrel's greater diameter; it also carries a thinner spring; the arbor retains the oil better; great wheel cannot wear one-sided, nor tilt; the mainspring hook does not project; it gives the center pinion a better fastening to the wheel than the old style safety pinion; the riveting is superior; no possible jar to the train when spring breaks; the spring breakage is reduced to about one-third.

It affords me a great deal of pleasure to know that all of these magnificent improvements have been made by the Waltham Company. I champion this watch on account of these improvements. They are up to my notion. I am also glad to see a double roller. Every watch repairer with mechanical ideas certainly must say the same thing as I do for your twelve and sixteen-size watches, also for your other sizes that contain these important improvements.

I expect you to arrange your dial on your sixteen-size and six-size as the twelve-size, so the edge cannot touch the case. I often find it necessary to shorten the screw heads in the six-size, so that they will reach the dial post, and go further in, in order to hold the dial fast. There is still room for a better dial fastening.

The balance spring stud in the twelve-size is the most scientific that has ever come to my notice, that is, the manner of fastening to cock. Yours truly,

F. C. RIES.
Macon, Ga., October 15, 1896.

THE OPTICIAN'S MANUAL NOW READY.

THE OPTICIAN'S MANUAL in book form is now ready for distribution. It makes a handsome cloth-bound volume of 376 pages, and is conceded by all acquainted with the serial in THE KEYSTONE, from which it is compiled, to be one of the most valuable optical works of the time. Its utility is much enhanced by a copious index, which makes the discovery of any point to be elucidated the work of a moment. The very large number of advance orders indicates a big demand for the book. Consequently those eager to secure a copy of the first edition should order at once. Sent, prepaid, from this office, on receipt of \$2.00.

THE KEYSTONE,
19th & Brown Streets,
Philadelphia, Pa.

Not Caused by an Opal.

Here is a story showing how to account for bad luck:

A man was shaking dice in a store. He lost. "No wonder," said a bystander. "You're wearing an opal. You never will have luck."

This set the man to thinking. Four days later he slipped in getting off a street car, and sprained his ankle.

This decided him. He gave the pin to a friend who was on the Board of Trade, and who was too hard-headed to entertain any fool notions about the number 13, or black cats, or cross-eyed girls with red hair.

Nevertheless, when this Board of Trade man lost over \$10,000 on wheat he began to worry. He didn't care much for the pin any way, and so one day when a young man in his office admired the "fire" in the stone, he said, "Take it along, if you like it."

The young man overwhelmed him with thanks. Then he waited, with guilty knowledge, to see what would happen to the young man. He did not have to wait long. The very next week the employee was taken ill.

The Board of Trade man was troubled in conscience, so he told his young friend about the opal pin and the superstition attaching to it, and the employee, after deliberation, decided that he would give the pin to his girl.

The opal did very rapid and effective work after it became the property of the young woman. On the second day after she began to wear it she ignited a curtain in attempting to light the gas. The curtain was destroyed, and the young woman burned both of her hands in attempting to extinguish the blaze.

The young man who had given the stone to her felt called upon to apologize.

"Perhaps it was that opal I gave you," said he. "You know, an opal is supposed to carry bad luck with it."

"I'll not wear the dreadful thing a day longer," said she.

So she didn't. She gave it to her brother, who scoffed at the suggestion that a little stone could wield any influence, good or bad. Nevertheless, when he started for Cincinnati and the train ran off the track and he was tossed half the length of the car, he became converted.

"I'll not give it to anybody else to be a Jonah," said he. "I'll sell it to a jeweler."

So he went to the jeweler and said: "What'll you give me for this opal?"

The jeweler looked at it and said: "That isn't an opal; that's a cat's-eye." —Chicago Record.

Impertinent Advertising.

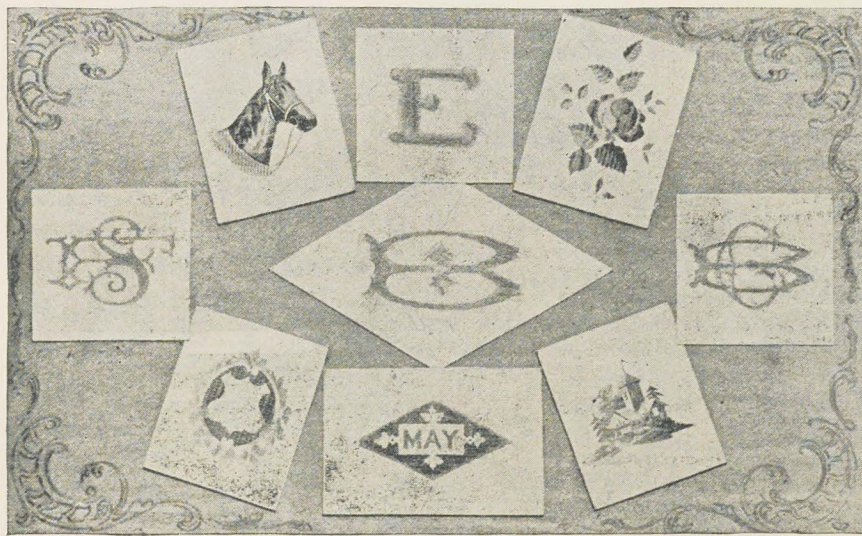
The form of advertisement by circular is taking on an impertinence as novel as it is objectionable, says the New York *Sun*. In the past, letters of a personal nature have been used to advertise a cheap class of plays or other undignified forms of enterprise, but the incursion of this style of advertisement into the field of serious and respectable establishments is something comparatively new. This spring a number of New Yorkers received what appeared to be written letters, although they were in reality printed, mentioning that Mamie, or Charlie, was going to pass the summer at a certain hotel, at a certain place, and then there were flattering comments on the hotel and its advantages. The letters were sent in a way which made them appeal always to the right persons, that is, those conveying the intelligence that a young man was at the hotel always went to a young woman, and so on. Glove shops send about letters to men, apparently in

a woman's handwriting, saying that one of his gloves was found after he left her the other evening, and she is able to prove certainly that it belongs to him because she knows that he always buys his gloves at Blank's. Now a firm of cleaners sends about a letter to all the people whose names happen to be in the books used by such advertisers, beginning, "My Dear Friend: Are you beginning to think naughty things of me?" The reason for this fancied disaffection on the part of the mythical friend is explained to be the writer's failure to send the address of the cleaner. The letter is throughout written in a spirit of impertinent intimacy which would not seem likely to attract favorable consideration to any business.

A Cash Store Advertisement.

We reproduce below an advertisement recently used by a boot and shoe store that does business on a strictly cash basis. It is not unworthy the attention of many jewelers:

PLEASE DON'T ask for credit. Read one of the many signs tacked up in our store. Did you ever stop to think what this means? It just means exactly a saving of 25 per cent. on every pair of shoes you buy of us. Store-keepers that give credit tell us that about one-fourth of all the goods they sell on credit is never paid for and another fourth is very slow in paying up. The consequence is that the remaining half have got to make the loss. A merchant giving credit is bound by laws of common sense and self-support, to charge more for the goods when selling on credit. Yet he cannot afford to have two prices on the same article, and he charges the cash customer as much as he does the one that buys on time. Are you willing to pay the other man's shoe bills? Not muchee! But look, you are perhaps doing the very thing now, and don't know it. Better investigate. See the shoes we sell you for cash only at \$1 a pair; see our \$1.50 shoes, our \$2 shoes, our \$3 shoes; see if they are not 25 per cent. better than what you have been buying at the other stores for the same money. One price to all and strictly cash is the only proper and legitimate way of selling shoes nowadays.



Our Machine Engraves

Beautiful Monograms!

Such perfection in this style of work has never before been attained by Engraving Machines, and is possible ONLY on

The Eaton-Engle Engraving Machine.

The Engle Engraving Machine,

which has always been a leader in its particular line, has been vastly improved by MR. WILLIAM S. EATON (who has long been known in connection with this class of machinery), and will hereafter be known as

The Eaton-Engle Engraving Machine

The accompanying cuts were made direct from plates engraved on our machine.

These cuts do not give any adequate idea of the extent and variety of the **exquisite work** which may be easily done on it, but merely suggest some of the possibilities.

Write at once for further particulars, and address all communications to

Eaton & Glover,

23 Park Row, New York.

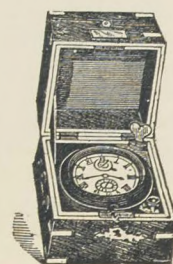
18 K.	L. B. & L. Smith	.87
14 K.		.71
10 K.		.55 NET.

MANUFACTURERS OF FINE WEDDING RINGS. FULL QUALITY GUARANTEED.
SUCCESSORS TO HILDRETH MFG. CO. ESTABLISHED 1860. WRITE US. 53 Maiden Lane, NEW YORK.

MARINE CHRONOMETERS AS Show-Window Attractions.

A reliable Chronometer is one of the best. It keeps your name before the public and will bring you trade. We have a number for sale at very moderate prices, for cash. All in good order and guaranteed.

RIGGS & BROTHER,
Chronometer Manufacturers, 221 Walnut St., Philadelphia, Pa.
ESTABLISHED 1818.



R., L. & M. FRIEDLANDER

30 Maiden Lane, New York

beg to state that their new

Watch and Diamond Catalogue No. 53

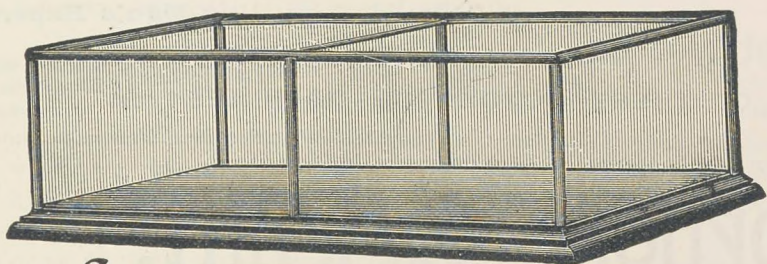
is now ready.

Have you our large Illustrated Catalogue of **Watches, Diamonds and Jewelry**, known as the **Monarch Catalogue No. 52?** This is a 512-page book filled with illustrations of the latest and most desirable goods for the Fall trade.

Send your business card and we will send you the above free of charge.

Watches, Diamonds, Jewelry, Watch Materials, Tools, Optical Goods.

Right Things in Store Fixtures at Right Prices.



Show Case, Figure 33, 10 feet long, 17 inches high, 28 1/4 inches wide, outside measure, and to be glazed with double-thick French glass top, front and ends, and to have sliding horizontal doors fitted with American mirrors, for **\$17.00** net, boxed, F. O. B. cars Chicago.

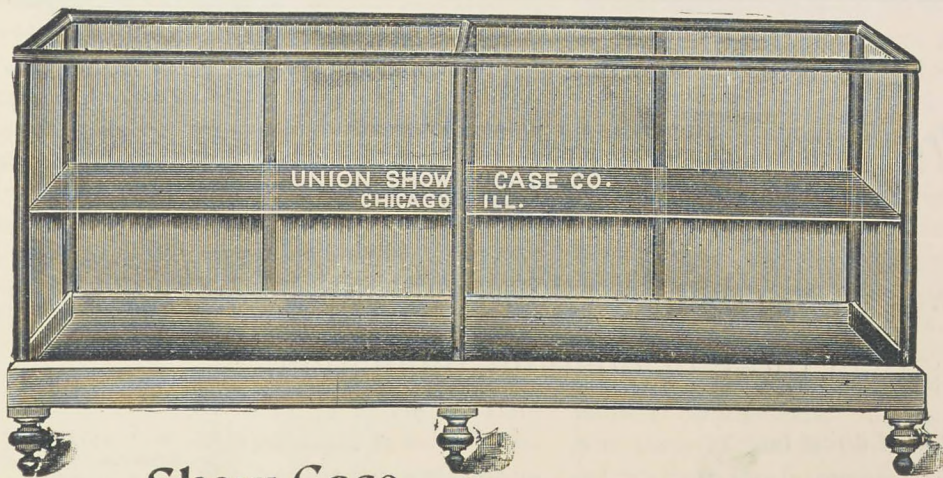
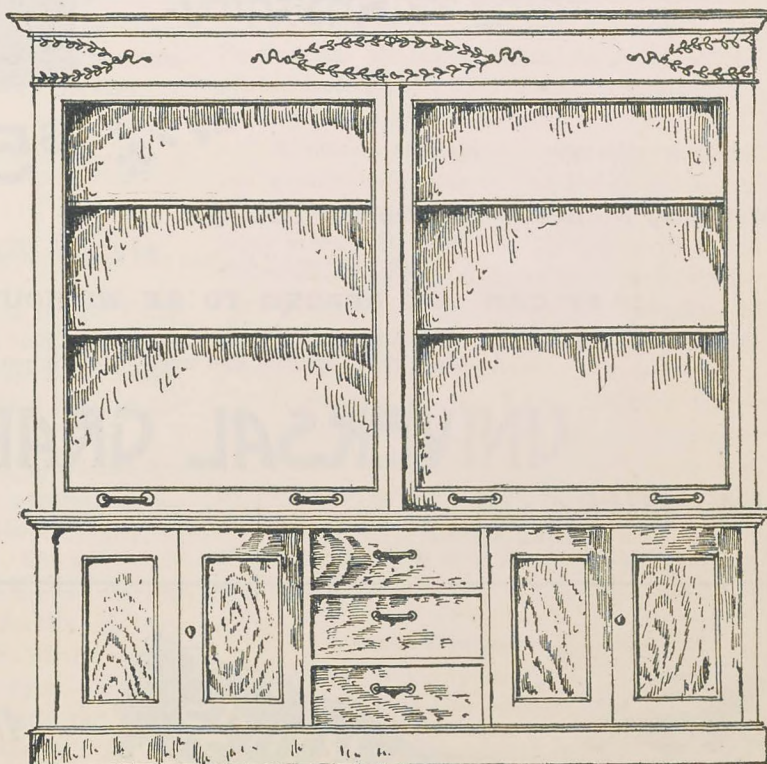


Figure 37 is a **Show Case** which is well adapted to the use of Retail Jewelers for displaying silverware, bric-a-brac, clocks and fancy goods. It is 8 feet long, 27 inches wide, and 42 inches high, outside measure, and is glazed with double-thick French glass front, ends and doors, and the doors slide on steel rail, top and shelf French plate-glass, top laid in from top on green felt, and to have two lights top and front, for **\$36.00** net, boxed, F. O. B. cars Chicago.



Wall Cases. Solid Quarter-Sawn White Oak. 8 feet long, 8 feet 5 inches high, 1 foot 4 inches deep inside. Doors slide up, fastened to Morton's steel chains and weights. Inside of case and shelves lined with black felt. Made to ship in the knock-down.

Net price, **\$46.00.** Worth \$64.00.

Union Show Case Co.
167 to 169 E. Randolph St.
Chicago.



CONDENSED MILK CAN HOLDER No. 17074E.

THE name of **The C.F. Monroe Co.** is becoming famous as manufacturers of the finest line of Wedding and Holiday Novelties ever put on the market. The good features of their products are originality, perfection of workmanship, and general artistic merit. For further particulars regarding their line, write to

The C.F. Monroe Co.

Manufacturers of
Wedding and Holiday Novelties,

Office and Factory, Meriden, Conn.

New York Salesroom—42 Murray Street.



JEWEL BOX No. 1280

IT JUST COINS MONEY!

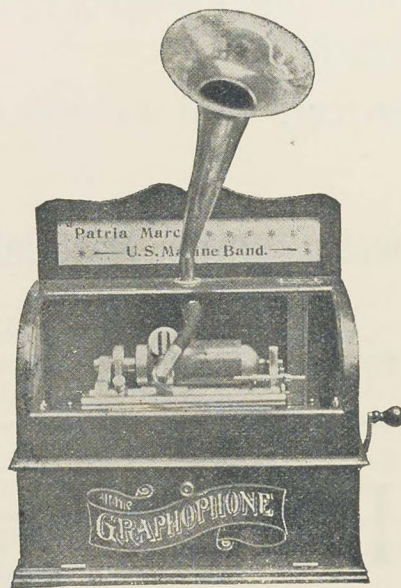
The Very Thing You Have
Been Looking For.

It Talks.

It Tells Stories.

A Full Brass Band.

Reproduces Every-
thing and Anything.



A Money Getter.

It is Simple.

It is Cheap.

No Batteries.

Clockwork Motor.

Gives Big Returns.

\$50.00

Will Pay At Least One Clerk's Salary.

Will Pay A Traveling Man's Expenses.

One man writes us: "Machine paid for itself in less than two weeks." Another took in over \$30.00 the first week.

CAN YOU AFFORD TO BE WITHOUT ONE OF THESE WONDERFUL MACHINES?

We have everything known in Talking Machines, from \$12.00 to \$50.00.

Send full price of Machine with order, and a discount of 3 per cent. will be allowed; or \$10.00 with order, balance C. O. D.

Over 5,000 Records to select from, for from 50 Cents up.

UNIVERSAL GRAPHOPHONE COMPANY,

J. A. FOSTER & CO.,
Selling Agents.

Providence, Rhode Island.



Are always of

**STANDARD QUALITY
NEWEST STYLES
BEST FINISH**

They will always sell when anything will, and cost no more
than those of doubtful reputation.

Don't wait for our travelers, but send direct to

M. B. BRYANT & CO.

10 Maiden Lane, New York

~~~~~  
OLDEST  
RING MAKERS IN  
AMERICA



## Clocks.

CVIII.

## Gravity Escapements.



**SO-CALLED** gravity escapements will now be taken up and described. As the name indicates, the force of gravitation is employed directly at the escapement to maintain the vibrations of the pendulum. A clock driven by a weight is also propelled by the force of gravitation, but propulsion is obtained through a train of wheels. Such train of wheels, however, from mechanical imperfections does not always give identically the same impulse to the pendulum. Up to the time of the invention of the double three-legged gravity escapement by E. B. Denison (afterward Lord Grimthorpe), gravity escapements were not held in very high esteem by horological experts, it being claimed that they were liable to trip.

As far as tower clocks are concerned, there is no question about the superiority of the gravity escapement invented by Mr. Denison; but for precision clocks of the ordinary type it is an open question whether the gravity escapement is an improvement on the Graham or a pin escapement, all the clocks equally well constructed. A double three-legged gravity escapement requires one pinion more than is demanded by a Graham or pin escapement, from the fact that the escape-wheel makes a full revolution ten times per minute.

It has heretofore been the practice with most horological textbooks to give only a sort of general description of this escapement, with illustrations more or less vague, leaving the workman to figure out many important points for himself. THE KEYSTONE does not propose to follow this plan, but to commence with the description of a complete train especially designed for a double three-legged gravity escapement, and then describe an escapement of this kind complete in all details, with accurate measurements of the several parts.

The train we shall adopt is one having four wheels. These wheels are main wheel,  $3\frac{1}{2}$ " pitch diameter, with 140 teeth; center wheel, 2.4" pitch diameter and 96 teeth; third wheel, 2.25" pitch diameter and 90 teeth; fourth wheel, 2" pitch diameter and 80 teeth. The pinions all have twelve leaves except the escape-wheel pinion, which has eight leaves. If it is deemed objectionable to use so low a number of leaves as eight, we can change the pitch of the fourth wheel and use forty-eight diametrical pitch, which will give us a ten-leaf pinion and 100 teeth in the fourth wheel. The fourth wheel then would be 2.083" pitch diameter. We are, as a rule, no advocates of pinions with a low number of leaves, as our readers are well aware; but in the present instance we would not care very much for a choice between a pinion of eight or ten leaves, because there is but little power exerted on the escape-wheel pinion. The pitch diameter of a twelve-leaf pinion of forty diametrical pitch is .3", and a ten-leaf pinion of forty-eight diametrical pitch is .208" diameter.

We show at Fig. 1 a train of wheels such as we shall employ, and can assure our readers that every care will be taken to make the clock as perfect a timekeeper as human skill can construct at the present time. The train as shown at Fig. 1 permits the use of either a

gravity or Graham escapement. If the train is employed as it is shown, with the extra pinion at *u*, it is as it should be for a three-legged gravity escapement. If a Graham or a pin escapement is employed, the train stops at the pinion *w* and the wheel *C* becomes the escape-wheel, with thirty teeth. If a pin escapement is employed, a wheel with thirty pins near its outer circumference is made use of. We speak somewhat confidently about the pin escapement, from the fact that THE KEYSTONE expert was the first to suggest a thorough remedy for this escapement running dry, which matter will be resumed later on.

The description we are now commencing will embrace the entire construction of the train and escapement, and also include a pendulum, together with a metal and plate-glass case of the highest mechanical excellence and beauty. The weights which run the movements are placed below the clock case proper, in an ornamental pedestal, and at no time are in a position to influence the vibrations of the pendulum ball. The arbor of the main wheel is almost entirely relieved of the friction on the bearings from the weight resting on them. This is accomplished by

**The Friction Taken from the Main Wheel Arbor**

employing the weight in halves, one half the weight pulling to the right and the other half to the left. The weights are suspended by braided silk cords, to avoid the usual untwisting attending twisted cords. These cords wind on a pulley turned like a double-thread screw, affording a groove for each cord, and consequently they never over-ride each other. The entire clock will be the most rigid precision timepiece ever constructed of its weight; and if built strictly on the lines laid down, it will be equal to any thing of the kind ever produced, no matter where built or what the cost.

*"The Keystone is the best book published in the interest of the jeweler."—S. V. Dickinson, jeweler, Buffalo, N. Y.*

## Philadelphia Horological Society.

The regular monthly meeting of the Philadelphia Horological Society was held on October 1st, at Bank Hall, southeast corner Broad Street and Columbia Avenue, President Lewis in the chair.

After the reading and approval of the minutes of the preceding meeting, the application for associate membership of Miss Mina Tingler, of Dresden, Ohio, was acted upon. She was unanimously elected. Miss Tingler is the first lady to be elected to membership in this Society; and not only is she an enthusiastic student of the science of horology, but also when working at the bench in her father's store—having nearly the entire charge of repairs—she displays the skill of the well-trained and educated watchmaker.

A large number of donations to the museum have been received during the past month from the following members or their friends: Messrs. G. M. D. Lewis, F. C. Bode, J. B. Jansen, C. Murset and Theodore Smith. The thanks of the Society are hereby tendered them for their valuable contributions. Among the interesting gifts those of Messrs. Lewis and Theo. Smith deserve more than a passing notice. The former contributed an old alarm watch and a quarter repeater, both in an excellent state of preservation; the latter's donation consisted of ten different kinds of watches, most of them having various

peculiarities of construction, and which are now obsolete.

As previously announced, H. E. Duncan, of the American Waltham Watch Co., was to deliver the first of the course of lectures to be given by the Society for the season of 1896-97, upon the subject of "The Escapement of the Waltham Watch," illustrated with mechanical lantern slides. Mr. Duncan was greeted by a large, enthusiastic and interested audience; in fact, the attendance was greater than at any lecture heretofore given, no less than 140 members and visitors being present, completely filling the lecture room, and following the lecturer in his exposition of this escapement with continued and close attention until its close. The lecturer opened his discourse by having thrown upon the screen a picture of Thomas Mudge, the inventor of the lever escapement. With the aid of numerous lantern slides he traced the draughting of the escapement, starting from the simple circle representing the primitive diameter of the escape-wheel; next drawing a radial line as the line of centers of the escape-wheel, lever and balance holes; further developing the lifting angle of the escape-wheel teeth and the pallets and their width; the lock, drop, and the slide, or run, of the tooth upon a pallet. After clearly tracing the completed escapement, Mr. Duncan proceeded to show its action by a series of ingeniously contrived mechanical lantern slides.

All the views, and there were many of them, when thrown upon the screen were about 100 times the actual size of the escapement of an eighteen-size movement, and as a consequence the slightest inaccuracy of manufacture was greatly magnified when the escapement was in action; and the lecturer, in clear and intelligent language, explained the shortest and most practical method to correct any defects when such are present. Mr. Duncan has all the qualifications of an accomplished lecturer, and his gifts in this regard give a special charm to all his lectures.

A motion was made, numerous seconded and unanimously passed, that the thanks of the Society be tendered to Mr. Duncan for the generous manner in which he had responded to the invitation to open the series of lectures during the coming winter. After the lecture a lengthy and general discussion took place, many members and the lecturer taking part therein.

T. Perkins, of the Elgin National Watch Co., will address the Society on the subject of "The Ethics of Watch Repairing," at its next regular meeting, on Thursday, November 5, 1896, and a cordial invitation is extended to all those who desire to attend it, as a very interesting lecture is promised.

## A Show Window Suggestion.

A wedding window is now *apropos*. Cover the floor with gray plush—dove gray is the best shade. In the center of the floor place a plain gold ring in a beautiful case of light color. This is the hub. Make the spokes of suitable bridal toilet articles, and the rim of alternating silver and cut glass pieces, such as might be used on the wedding table. In the front of the window, where it would not hinder a view of the wheel, place a neat card:

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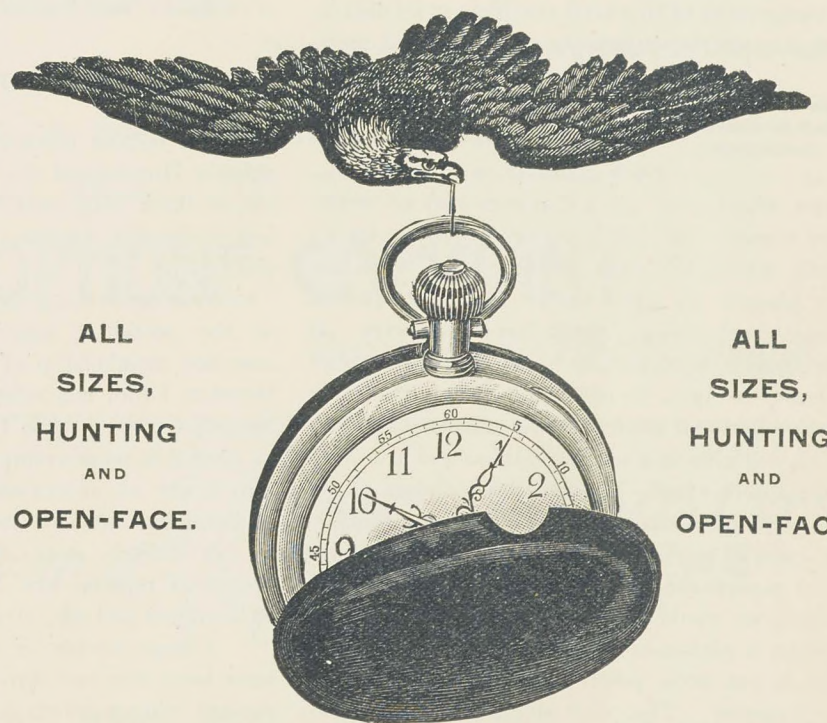
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# Hairsprings, Springing and Adjusting.

XXVII.

## More About Heat and Cold Adjustments.



RESUMING our subject as we left it at the close of our article on page 793, October, 1896, KEYSTONE, we would add that the effects of cold would be to expand the composite segments outward. To aid in

our explanations we have reproduced all the essential features of Fig. 1, page 793, October, 1896, KEYSTONE, at Fig. 1 of the present issue. The outward expansion of the segments  $A' A''$  from the effect of cold is indicated by the dotted arcs  $s s'$ .

It is usual to speak of cold as an existence or an energy like heat, but we should disabuse our minds of this, because the condition we call cold is only the lack of heat. And in a compensation balance we assume a state which we conceive to represent an average effect of the energy we call heat. Heat has been demonstrated to be a mode of motion, and this motion ceases at a certain temperature; but no such energy as cold sets in at this time and causes a series of conditions and effects in an opposite direction. In other words, there is no active negative condition to heat.

The way to view our efforts to remedy the influence of heat on a compensation balance is to

study the effects of less or more heat on the time-controlling power of our timekeeper. The problem in hand is to prevent a change of rate by a change of temperature. The time-controlling power of a portable timepiece lies chiefly in the balance and hairspring, and it is from these parts we should seek to avert the action of heat as a disturbing influence. No doubt heat affects every wheel of the train in a watch or chronometer, and also lessens the power of the mainspring, causing it to pull with less force in high temperatures than in low ones.

These last named influences are so slight, however, that they can be ignored, and we can consequently direct our attention entirely to palliating the influence of temperature on the balance and hairspring. The hairspring, however, is the part most affected, the ratio being nearly six to one, that is, the influence of heat on the hairspring is about six times as great as on the balance.

It was formerly held that a portion of the losing rate of a timepiece controlled by a hairspring and rotating balance was due to the hairspring increasing in length. This theory is now abandoned, since Mr. Wright, of the London Horological Institute, called attention to the fact that a hairspring also expanded in width and thickness as well as in length, and if the rigidity of the material of which the spring was made was maintained, the spring should increase in strength and force. There is no questioning the fact that the falling off of the elastic force of a hairspring from a rise of temperature is chiefly due to the

softening influence of heat, that is, so many degrees of heat are just so many thermal steps toward the melting point of the steel.

Experiments conducted by Sir G. B. Airy, Astronomer Royal of Great Britain, in 1859, with a chronometer having a plain brass balance, showed a loss of 6.11 seconds in twenty-four hours for each degree of increased temperature. It is claimed that palladium hairsprings are less affected than steel. Experiments with glass hairsprings showed they were less affected than those from any metal. But we are all aware that the physical properties of glass are not such as to render it adapted for making hairsprings.

There have been many devices tried for effecting heat compensation in timepieces controlled by a balance and hairspring, beside a composite balance like  $A' A''$ , Fig. 1, but they never seem to have gained a permanent place in popular favor. The heat compensation in the historical marine timepiece constructed by John Harrison, by which he won the British prizes for timekeepers for nautical purposes, was a composite bar which acted on the hairspring.

That the present type of compensation balance, as found either in pocket watches or marine chronometers, is all that could be desired, no skillful horologist will contend. They can simply be accepted as the best practical compensation for heat effects on portable timepieces the mechanic arts have devised up to the present time. It would in no way surprise us to see some simple device invented which would be in many ways more efficient and desirable. Many faults and deficiencies are inherent to the compensation balance, as we shall point out as we progress in this essay on the adjustment of timepieces controlled by a balance and hairspring. And before closing this article we would say to our readers that there is no better field for inventive genius in horological matters than to devise better compensation for heat effects.

*"It has only been neglect on my part to not have sent my little dollar, as I get more than the value of a dollar every month from The Keystone."*—S. C. Shuster, jeweler, Latrobe, Penna.

## As to Foreign Competition.

ED. KEYSTONE: LIMONA, FLA., Sept. 26, 1896.

Several articles published during the current year in various periodicals were calculated to convey the impression that the domestic watch manufacturing and other industries were threatened with formidable oriental competition as a result of the combined use of cheap foreign labor and American machinery. Recently, ex-Superintendent of Census Porter related in one of the magazines some of his deductions from a visit to China and Japan. He dreads the coming competition of the oriental with our American labor. He says he visited their factories for the manufacture of clocks and watches, and "found them operating successfully with the most approved machinery of latest American design." Just at the time of publication of Mr. Porter's article the news came of the collapse of the Japanese watch factory, and caused no surprise to any one who knew the previous failure of the same machinery at two points, Otagi and San Jose, on the California coast. Impossible of success on this side of the Pacific, it was perfectly impracticable in the hands of "the little brown men."

In July last the writer had an hour's conversation with one of the men who had returned disgusted from the attempt to teach the natives to operate the watch machinery in Japan. He is probably the most intelligent of the little crowd who went to Osaka. He says the Japs are imitative, but have almost no initiative or designing faculty, and they have positively no idea of time as a factor in the cost of production. Their standard of living is so low, their living expenses are so small, that it matters little to them whether they complete one hundred pieces in a given time, or only ten pieces. If they do work wrongly—well, they can do some more to make it up; or if a machine be out of order they can wait with patience to have it fixed. If to-day, it is well; if not, then to-morrow. He told me that in many lines attempts, more

or less successful, are being made to use American machinery, but he knew of no instance, after diligent inquiry, where the natives had adapted imported machinery or machine ideas to the production of native wares; the new machinery was used only to produce articles which had been hitherto imported.

He summed up by saying that although the Japs, in certain sections and cities, had doubtless improved marvelously in the last twenty years, as compared with their previous condition, yet they must necessarily be educated to a higher standard of living and morality before they will become in any way manufacturing competitors of whom we need stand in fear.

*"It is difficult to teach an old dog new tricks."* This is true not only of watchmaking with American machinery in Japan, but also of similar attempts in the countries of the old world. Almost the same mail which brought to the writer news of the collapse of the Osaka factory, brought also news of the final failure and sale of the plant and machinery of the English Watch Co., of Villa Street, Birmingham, England. This plant was built in the latter end of the '60's for the Tremont Watch Co., of Boston, Mass., under the superintendence of our old friend, the late A. L. Dennison. After failure there, it was taken by him to Birmingham, England, and set going by a joint stock company, who soon froze out Mr. Dennison. The machinery, of old idea to begin with, has been operated for twenty-five years at a disadvantage, and but two small dividends have ever been paid. Now the end is come.

In 1878 one of the most progressive of English watch manufacturers, J. Rotherham, of Coventry, England, purchased from this country a small plant of watch machinery to produce the movement up to a stage ready to receive the escapement. The machinery furnished was of a type probably such as was used at Waltham about 1875 and 1876. It is safe to say that the character and productive capacity of the Rotherham plant is to-day no better and no greater than it was in 1880.

Some six or seven years ago a great to-do was made over the establishment at Prescott, Lancashire, England, of a watch factory upon the American plan. It commenced by absorbing the old interchangeable movement factory of John Wycherly, and by buying up many little branch factories in the district. A lot of machinery was then purchased from this country, principally of a type to be found stored away—retired—in the cellars at Elgin and Waltham. The result is told best by men who have gone to work at Prescott during the past three or four years, thinking that eighteen cents an hour there would be perhaps better than short time here, but who have returned disgusted alike with treatment, with methods, and especially with the manager, who declares, when men complain, that he has the most advanced type of American machinery, and that it requires no addition or alteration, and he does not require or desire any—Yankee suggestions. A very cursory analysis of the last report of this gentleman to his stockholders shows whither he is very rapidly drifting.

The detail of similar failures may be related of attempted use of American watch machinery at Geneva and at Schaffhausen. Nor is the failure confined to the manufacture of watches. Men who have been successful in Connecticut in clockmaking have failed with American machinery in Birmingham, England. And the cause of failure is alike in Japan, England, Switzerland and France.

The evolution of social and economic methods and processes has been carried out on distinctly different lines in each of the countries named. Each has evolved its own system of economics and its own standard of morals and of living, and neither can comprehend fully the plan of either of the others. Any one may adopt some portion of another's machinery or methods, but is hampered at once by its own traditions. In consequence discouragement and failure ensue.

The evolution of American manufacturing methods proceeded for the larger portion of this century under a pressure of a lack of skilled labor such as has been unknown before in the history of the world, and a result has been realized which is beyond the comprehension of those nations with whom low-priced, low-fed but comparatively skilled labor has been in superabundance. And so a few moments of sober reflection cannot but convince us that we have but little to dread, in our domestic market at least, from any competition the orientals may bring to bear. It can only be through generations of education, after long and intimate contact with the higher type of civilization they propose to adopt, that the Japanese can become in any serious sense our rivals in any line of progressive modern thought or action. In their own markets they may dominate at a comparatively early date. "But," as Mr. Kipling says, "that's another story."

ISCA.







## Beautiful Lucerne, the Naples of Switzerland.

BY THE SPECIAL REPRESENTATIVE OF THE KEYSTONE.

No. 10.

Sooner or later every one that comes to Switzerland finds his way to Lucerne, "the Naples of Switzerland" as it is called from its picturesque position on the shores of the beautiful Lake of Lucerne, with Mount Rigi rising in the near distance. By night, when one looks down on the many lights of the town from the Hill of Gibraltar or the



STATUE OF WILLIAM TELL.

Gutsch, the fancied likeness is more striking than by day and the view almost as beautiful. The absolute picturesqueness of Lucerne is perhaps its only weak point—it is so exceedingly picturesque, with its combination of lake and woods and ranges of snow-capped mountains, which all serve as a background for the quaintness of the old walled town, that it suggests an over-elaborated composition for a picture.

The town of Lucerne is naturally divided into two parts, the old Swiss village that dates back to the fourteenth century and still keeps its dormer windows and red-tiled gabled roofs, and the new town, composed of every variety of hotels and pensions ranged for the view along the edge of the lake, where English and Americans meet to talk and shop and drive, very much as they do at a watering place at home. To any one traveling for "local color" and fresh impressions, this new city seems disappointingly familiar. If he walks into the parlor of any of the large hotels he is sure to meet some one he knows, who will persuade him to go to listen to the band in front of the Schweitzerhof, or stroll under the trees on the quay to see the stream of English-speaking fashion and beauty till he will feel as if he were in Piccadilly or Fifth Avenue. But if he tires of this, he has only to walk a square or two and turn

into the old market along the River Reuss to feel himself back in Switzerland. The stalls are arranged under an arcade by the side of the water, which flows like a mill-race, and makes a brilliant background for the bright fruit and vegetables and brighter costumes of the peasants. The dress most frequently seen among the women is a black bodice worn with a thin white waist and full skirt, and laced together with a silver chain. A great variety of head-dresses is worn, but perhaps the most striking is one composed of two flat scalloped pieces of polished steel joined together like the valves of a shell, and fastened against the back of the head in some mysterious way. This is generally worn by the older women, and neither old nor young wear hats.

Lucerne is built on two sides of the river, and two of the fine connecting bridges are among the quaintest sights of the town. The "Sprennerbrücke" and "Mühlenbrücke," as they are called, date back to the middle ages. They run obliquely across the stream, which gives them a very odd, independent expression, and are both built of wood that is almost black with age. Under the pointed roofs are series of pictures painted on wood, the most celebrated of which represents the Dance of Death. About the middle of this bridge stands a hideous modern shrine, in front of which may generally be seen two or three old women devoutly telling their beads, but with an eye for possible pennies from travelers.

The first object that the tourist naturally looks for is the Lion, and although his ideal may be high he is not disappointed. On the outskirts of the town a small park has been preserved, in which stands a sheer wall of rock rising from one side of a pretty little pond, and overhung with trees and creepers. Half way up, in the middle of the rock, lies the famous Lion of Thorwaldsen. It is carved out of the natural rock, and is a most striking and beautiful object, whose interest is heightened by its romantic meaning. Until quite recent years numbers of the Swiss soldiers were hired out as foreign mercenaries, and on account of their courage and faithfulness they served as bodyguards at many of the European courts. During the French Revolution they distinguished themselves by their devotion to the royal family, and at the storming of the Tuilleries, August 10, 1792, twenty-six officers and 760 men were killed, defending the palace against the furious attacks of the mob. The Lucerne lion was erected to the memory of this event. Above it is the simple inscription "Helvetiorum fidei ac virtuti," and beneath are the names of the officers.

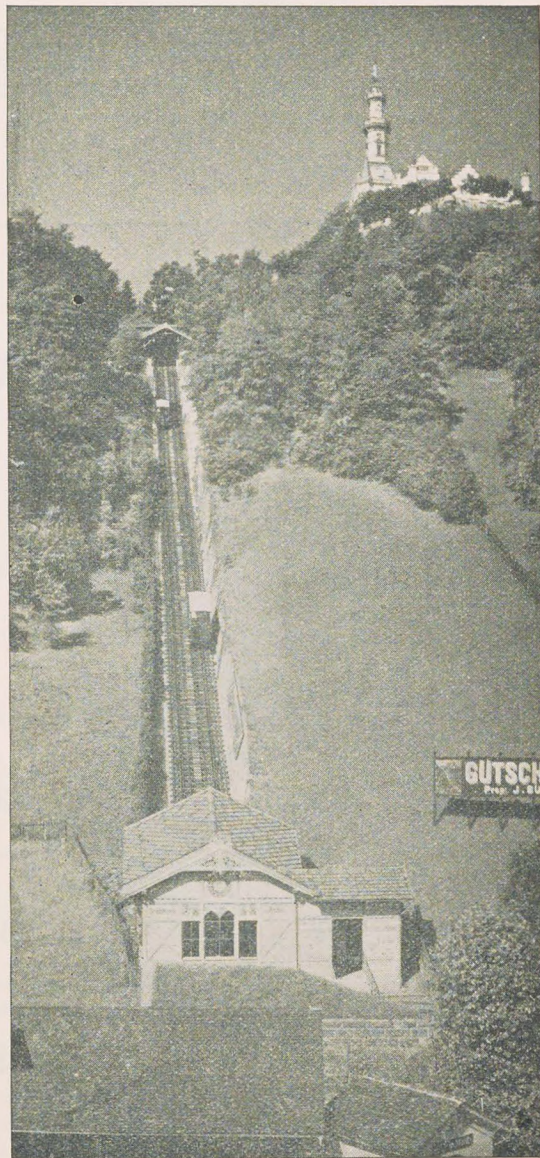
To one side of the lion is the Glacier Garden, one of the few in Europe, discovered in 1872. It is a small space of ground, an acre or two only, showing the action of the ice on rock during the ice period. The rock looks as if it had been the well-worn bed of a stream, and scattered over it are "pot holes" or "giant's caldrons" of different sizes, the largest being twenty-eight yards wide and thirty-two deep. On the inside are deep spiral grooves, showing the action of the ice, and all the rock about is marked by deep scratches, which geologists say only ice would make. In a few places there are petrified specimens, a palm leaf and shells, showing that at one time the land was at the sea shore, with a tropical climate.



LION OF THORWALDSEN (CARVED IN THE NATURAL ROCK.)

The town is only one of the things to be seen at Lucerne. There are all kinds of excursions to be made by carriage, by train, and by boat. The most popular are the trip around the lake by boat and the ascent of Mount Rigi and Mount Pilatus.

The Lake of Lucerne, or "Vierwaldstätter See," is bounded by the four cantons of Uri, Schwyz, Unterwalden and Lucerne, and the tour of its shores may be made by boat in an afternoon. On Sundays a first-class ticket for the excursion costs a franc and a half (thirty cents).



RAILWAY ASCENT TO MOUNT RIGI.

This is the land of William Tell, and the shores of the lake have many spots associated with his name. Tell's Chapel marks the point where he sprang from Gessler's boat when he was being carried off to prison, and Altorf, a little village a mile back from the lake, is the famous scene of the shooting of the apple. Last year a handsome monument was erected in the market place, representing Tell and his son starting out on a day's hunting. And yet modern investigation would have us believe that he never existed!

One of the most interesting places on the lake is the little clearing called the "Rutli." On this spot on the night of the seventh of November, 1307, three men, representing the three cantons of Uri, Schwyz and Unterwalden, met and formed a league against the growing power of the House of Hapsburg, now the ruling house of Austria. This circumstance, which is historic, as well as the story of Tell, is told in the beautiful German play of "William Tell," by Schiller, to whom there is an inscription on a rock at the edge of the lake. Whether Tell ever lived or not, the feeling that his career typifies is very live to this day. Of all the people of Europe none are more self-respecting, industrious and independent than the Swiss. Certainly in their case it

(Continued on page 885.)





AND

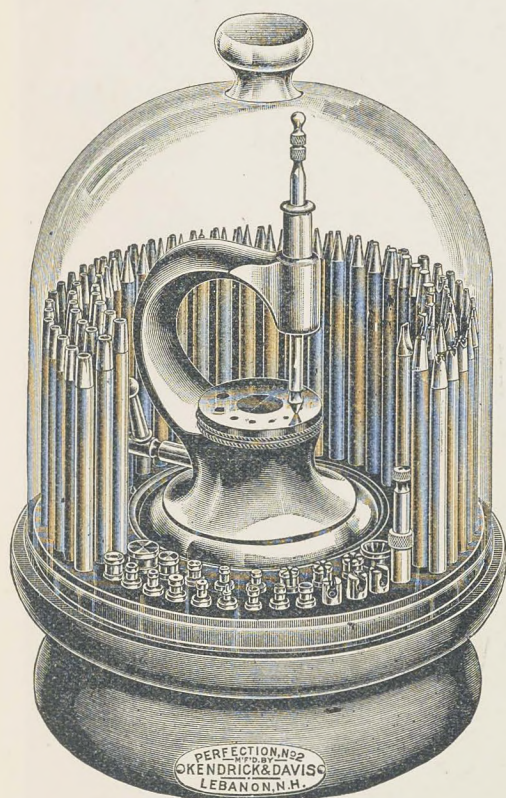
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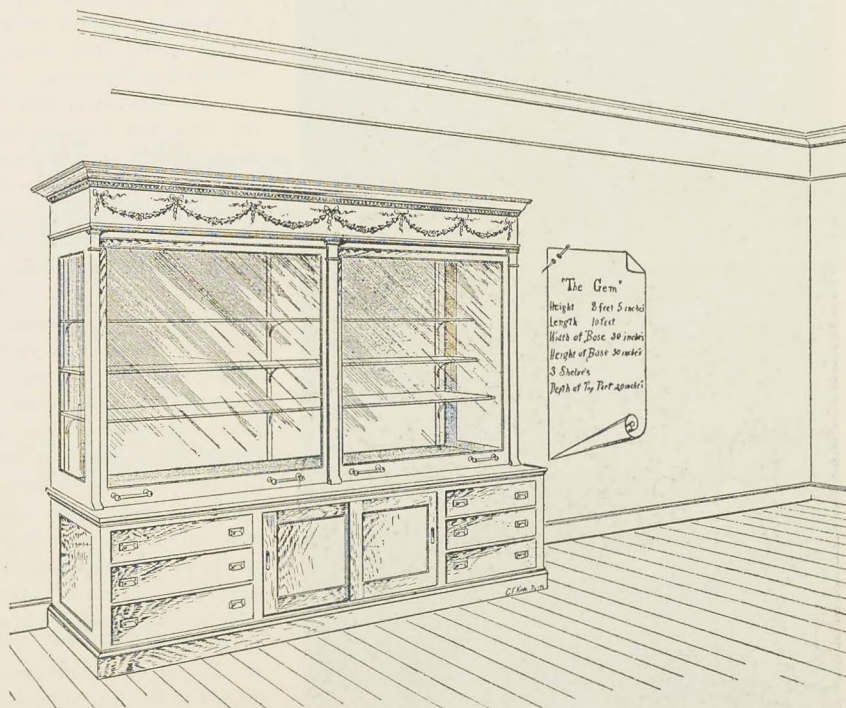


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Webster Whitcomb



## Watchmakers' Tools, and How to Use Them.

LXXXIX.

### On Truing a Balance.



ANY fine watches have the arms of the balance left in the "gray," that is, the surface is smooth but not polished. In such instances a ground glass slab is to be preferred to the zinc lap suggested in October, 1896, KEYSTONE. The glass slab we refer to is such as every watchmaker has, or should have, in his kit, and is simply a piece of plate-glass 6" or 8" square with one side ground or roughened by rubbing on its surface a smaller piece of such plate-glass with rather coarse emery and water until a dead or mat surface is produced over one entire side. Such a glass slab is almost as necessary to a watchmaker as is a bench vise.

#### How to Quickly True a Balance

To elaborate a little on the plan of staking a balance on a new staff so it will run dead true at first: It will be evident to any person who will reason on the matter, that if the portion of the balance arms represented by the dotted arc  $r$ , Fig. 1, is in a perfect plane with the average surface of the lower side of the balance, and it is carefully staked on to a true staff, the balance must run true in the flat. A convenient little "dodge" for testing the truth of an unset balance is to employ a small piece of plate-glass and some transparent coloring matter mixed with mucilage.

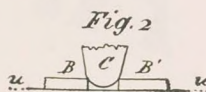
Before going into all the details of the process let us consider the conditions which exist when we simply lay a compensation balance on a perfectly true glass slab. If the balance is perfectly true in the flat, the arms and segments of the balance will touch the glass at all points; but if untrue, it will only touch in places. It is very difficult to judge of the untruth of a balance by laying it on either a true glass or metal surface; but if we interpose some colored transparent media between the balance and the glass, such media will, by the color effects, tell where the errors may exist.

To carry out the details of such process, let us mix a little liquid bluing, such as is used for laundry purposes, with some mucilage. The bluing should be well incorporated, and the mixture not quite as thick as that used for counting house purposes. Smear some of this mixture on a piece of plate-glass about 2" or 3" inches across, and, placing the balance upon it, press it down with a pegwood to bring the balance in contact with the glass. Although we should press every portion of an untrue balance down to the glass, in a few seconds those portions of the balance disposed to spring away from the glass would do so, and the pressure of the air on the colored mucilage would carry this substance into the vacancy, and we could see from the back of the glass the parts which had sprung away from the glass and needed manipulation to bring them paralled with the glass.

After the entire rim of the balance is flat, as indicated by its being of the same color throughout its entire circuit, we bring flat that portion of the arms at the dotted circle  $r$ , Fig. 1, by the process described at the close of our article on page 795,

October, 1896, KEYSTONE.

The cut illustrating the process is shown at Fig. 2.



#### Truing a Balance in the Flat

Although we gave the gist of the process of grinding the surface of the balance arms immediately surrounding the hole for the balance-staff, we will now deal with it more in detail. It is evident that if a round-pointed instrument—a ball-faced punch, for instance—is rested on the hole  $a$ , Fig. 1, when the balance lays flat on a zinc polishing lap, and is pressed down with moderate force, the rim of the balance will guide the grinding so as to grind flat the surface of the arms in the immediate vicinity of the hole, or on a plane with the lower side of the balance. This care observed, and a staff turned carefully in a cement chuck, will insure a balance to run true in the flat without any further manipulation. Truing in the round is not a difficult operation if the balance is true in the flat. One or two well-directed bends with nothing but the fingers will usually bring a balance true in the round.

#### Practice Recommended

There is no one exercise in the way of instructive practice which a watchmaker can give himself, and nothing that will pay him better, than to practice truing compensation balances. All repair shops have old movements which are of no use except for the material in them. Take the balance out, and if it is a Swiss imitation of an American lever with a balance, the segments of which are not cut, take a screwhead file and cut the segments free as in the ordinary compensation balance. Then when you have a few moments' leisure time, proceed to true up the balance until, as far as you can see, it runs perfectly true. Put such balance in a box by itself, and a week or two from the time you got through with it examine it again, testing it carefully in the calipers, and you may be surprised that you could have called the job a good one. Again, a balance you thought was badly out of true might not seem so entirely to be condemned. There is no one so easy to deceive as ourselves. A workman can easily become nervous and fidgety, and entirely incompetent, for the time being, of judging of his own success or failure. By putting the work aside for a few days the judgment becomes restored and we can justly judge of our own efforts.

"Your Keystone is a most profitable journal to both watchmakers and jewelers, and it is with pleasure I enclose one dollar for the renewal of my subscription to the same for another year."—I. L. Simmons, jeweler, Elmira, New York.

### Beautiful Lucerne, the Naples of Switzerland.

(Continued from page 883.)

cannot be said that a republic is not a success, but the size of their country makes it quite a simple affair. In 1880 the population was only 2,846,102. A practical difficulty, on the other hand, must be the language. Situated as it is, in the center of Europe, it has no distinct language and the people speak a patois of the language they are nearest to, and French, German and Italian are used indiscriminately at the congress of the Swiss Federation.

The sunrise from the top of the Rigi is apt to be disappointing, but not so the ride up and down in one of the open cars of the mountain railway. There are roads now on almost all the mountains in Switzerland worth ascending, and though from a romantic point of view they are disappointing, they are certainly convenient. The accompanying photograph gives an excellent idea of all these roads. A favorite excursion of several days is to see the wonderful mountain of the "Yungfrau" from Interlaken; but if we once turn our faces southward from Lucerne towards lower Italy there is no turning back, for Lucerne is only the gateway to the greater mountain ranges beyond.

## Full-Page Advertisements.

### The Advantage of Using a Full Page Practically Discussed and Argued.

By NATH'L C. FOWLER JR.  
Doctor of Publicity.

Copyright, 1896, by Nath'l C. Fowler, Jr.

#### PAPER NO. XI.

The good of all good is in the good way of handling it. A good thing, badly presented, may be as poor as a bad thing well presented.

Too little office room is extravagant economy.

Too much office room is wasteful extravagance.

Enough is plenty.

A large business and a large office generally go together.

A hundred-dollar man does not often wear a ten-dollar overcoat.

In the equilibrium of the parts of the business is the success of the whole of it.

The successful house has enough room, enough clerks, and enough of everything.

By your surroundings so will you be commercially judged.

Extravagance and economy, like the extremes of heat and cold, act the same.

There are several reasons in favor of full-page advertisements in trade papers.

To logically and practically present them, allow me to give them, number by number:

First—The full page advertisement stands for progress.

Second—The full page advertisement represents success.

Third—The full page advertisement must be seen.

Fourth—The full page advertisement is exclusive—no body else occupies the page with you.

Fifth—The full page advertisement gives you individual identity—you stand by yourself on your own ground.

Sixth—The full page advertisement cannot be overshadowed by surrounding announcements, because there are none around it.

Seventh—The full page advertisement may not be a guarantee of respectability, but few, except the most reliable of houses, use full pages.

Eighth—the full page advertisement admits of the boldest typographical display.

Ninth—The full page advertisement allows ample room for comprehensive illustration.

Tenth—More than four times as many people see and read the full page advertisement than see and read the quarter page advertisement, and the full page does not generally cost quite as much as four times the cost of the quarter page.

The traveling salesman should never be obliged to initiate the buyer, for the first time, with the name of the house he represents.

The full page advertiser knows that the name, and the business he does, are familiar to every possible buyer.

The advertiser of smaller space generally finds that his advertisement pays him, and if he finds it to be so, there is no reason why his reason should not furnish reason to make the good thing that paid him well, pay him better.

There are exceptions, for no invariable rule ever existed, but no man of sense dares risk his dollars in following the law of exception, when the rule of average leads on to success.

So long as ninety-nine per cent. of the most progressive and successful houses use full pages, have used full pages, and always expect to use full pages, the argument in favor of full pages lifts itself from out of the sea of doubt, on to the rock of successful safety.

### A Wonderful Dog.

Crit Robinson, the wing shot, has the best trained hunting dog on the Pacific coast, a black pointer, and the proud owner tells a good story that illustrates the true scent of the dog. He came down out of the Mills building, San Francisco, with an attorney one day, when the lawyer found he had forgotten his gloves and proposed to return for them.

"No, I'll send the dog," said Robinson.

"But how will he know my gloves?" asked the doubtful attorney.

"Just let him smell of your hand."

The dog was given the scent and dispatched up the stair. In a few minutes he returned with a ribbon the attorney's typewriter had been wearing around her waist.



# LOUIS A. SCHERR & CO.

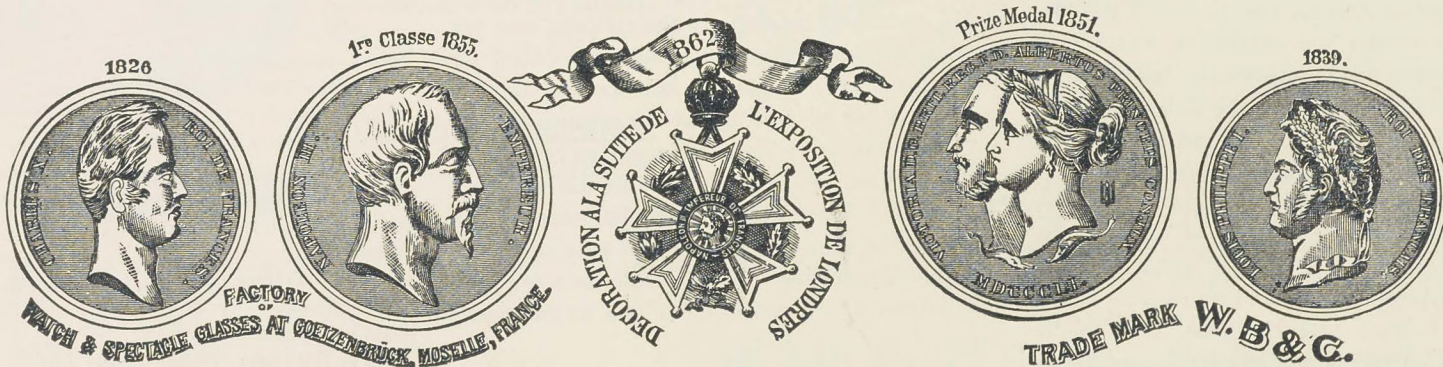
Diamonds  
Watches  
Jewelry, Silverware  
Watchmakers' Tools  
Material and Glasses, Etc.

Special Agents for

Moseley,  
Rivett and  
Whitcomb } Lathes and  
Attachments

726 CHESTNUT STREET  
PHILADELPHIA  
PA.

Over 25 Silver and Gold Medals awarded to the **W B & C** Glasses at the different Exhibitions of the world



The only Medal at the World's Fair for Watch Glasses was awarded to the **W B & C** brand.



## WATCH GLASSES

The **W B & C** Glasses

are known to be the BEST



Everybody knows that the **W B & C** glasses **HAVE BEEN, ARE, AND WILL ALWAYS BE** the leading brand of glasses in the market. Their finish, clearness, flexibility and correctness of size make them so that the leading jobbers in the United States will use no others at any price. Four-fifths of the case manufacturers are using them on account of their accuracy and perfect roundness. They used to buy a cheaper grade of goods, but soon found out the wisdom of the old proverb, "The Best is the Cheapest at the End."

**WATCHMAKERS!!** If you wish to save time and money and give good satisfaction to your customers (if you are not using them), try the **W B & C** and don't be deceived by bluffing and humbugging advertisements, showing a lot of nonsensical figures. The **W B & C** glasses are in existence over sixty years, and during that time a great many brands have sprung up in one day, and never heard from afterwards.

It is a good and reliable glass you want, which is the **W B & C**.



## Arts Allied to the Jewelry Trade.

LXXVIII.

## Must Have Tools Adapted to the Work.



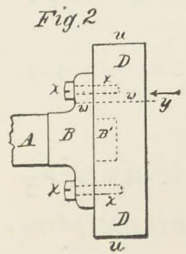
POLOGY is not necessary for the lengthy manner in which we are considering the appliances for preparing work for replating. The importance of such wood pulleys as we described in our last article prompts us to say more about them. All wood pulleys similar to the kind we illustrated at Fig. 5, October, 1896, KEYSTONE should be mounted in such a way as to admit of being removed and replaced on the face-plate *B* any number of times, and in every instance run perfectly true. Such pulleys are not a matter of makeshift, but something to do excellent work.

It takes much more power to run a machine out of true and out of poise than it does to run one absolutely true and with the parts carefully poised. The pulleys and laps we described in our last preceding article should not only be true, but accurately poised. Let us imagine a lap such as we illustrated at Fig. 1, page 791, October, 1896, KEYSTONE, has two ounces extra weight on the one side; that is, one side is this much heavier than the other. At a slow speed such out-of-poise would not be much noticed; but let us run such a pulley or lap at 2500 or 3000 revolutions a minute, and it would shake a heavy framework like an attack of ague.

Besides, it would require as much mechanical power to do this shaking as to run the lap and do its necessary work. The same can be said of a pulley out of a round. A polishing pulley out of round shakes the job, and no man can do first-class work on a piece which trembles in his hands. Making a polishing lathe extra heavy does not insure it so much against trembling as does taking the proper care in preserving the poise.

At Fig. 1 of the present issue we reproduce the lap shown at Fig. 1 of October, 1896, issue; and in illustration suppose it to weigh six pounds, and be out of poise only half an ounce. Now at a speed of 300 or 400 revolutions per minute it would hardly shake a light lathe, but at 2000 revolutions it would shake a pretty heavy one to such a degree as to materially impair its efficiency. Perfectly poise the lap and lathe spindle, and the lap would run as steady as a "sleeping top," even on a light lathe. Of course, it is self-evident that if the lathe spindle and face-plate *B* are once perfectly poised, they will remain so for a long time.

To poise a lap, about the easiest way is to remove metal from the heavy side—say at the point indicated by the arrow *z*, Fig. 1—by drilling. It is further evident that a lap cast solid and turned up on a true arbor can be but a little out of poise, and consequently will require but a small amount of metal removed to bring it to poise. Wood pulleys such as we illustrated at Fig. 5, October KEYSTONE, need further consideration, and to facilitate such consideration we reproduce Fig. 5 of our October number at Fig. 2 of the present issue.



We described in a former issue how to attach a wood pulley to the face-plate *B* by means of screws from the back. One objection to such mode of attachment is, it leaves holes in the face of the pulley opposite the arrow *y*, Fig. 2. Now the flat face of the pulley *D* can be used to great advantage as a flat lap for many purposes, either with emery tallow cake, or Vienna lime and cosmoline; and to render the face of *D* smooth, we make holes in *D* as before directed, and in these holes sink iron nuts for the screws *x*, said screws now being inserted from the back. To explain

how this is done, we refer to Fig. 3, which shows a section of a portion of the wood lap *D*, Fig. 2, above the line *w*. To carry out the plan, holes  $\frac{1}{2}$ " diameter are bored in the face of *D* opposite the arrow *y*, to about two-thirds the thickness of *D*. Holes, say  $\frac{1}{4}$ " in diameter, are continued through *D* to receive the bolts *x*. Such  $\frac{1}{2}$ " hole is shown at *T*, Fig. 3. In this  $\frac{1}{2}$ " hole is inserted a flat disk nut with hole and female screw to receive the bolt *x*. Such nut is shown at *s*, Fig. 3, and again, magnified, at Fig. 4, where two wire nails are shown at *v v* to prevent the nut *s* from turning in *D*. Fig. 5 is a view of Fig. 4 seen in the direction of the arrow *j*. After the nut *s* is in place, together with the wire nails *v v*, the recess *T* is carefully plugged with pins of the same kind of wood as the pulley *D* is made of. The pulley *D* is next secured to the face-plate *B* by the screws *x*, and the face of *D* opposite the arrow *y* is turned perfectly flat and smooth.

In conjunction with carrying out these details, we would say the hole in *D*, where it goes on the part *B'* of the face-plate *B*, should be bushed with some hard metal, like brass or iron. Such bushes can be used over and over again for new pulleys *D*, as also can the bolts *x* and nuts *s*. The flat face of *D* presents the end of the grain of the wood, and is eminently adapted for holding abrasive materials for grinding and polishing purposes. We especially mentioned gum tree wood, but woods like pear, apple, holly and other fine-grained woods can be employed.

## Colors in Dressing Windows.

A little book entitled "The Thoughtful Thinker on Window-dressing" tells us that color should be shown in some manner in show windows. If you do not have mirrors, then use cheese cloth according to the season. White, green, lilac and yellow are always in season. From one to five lines in a window at the same time will be far better than a conglomeration of many. In one it attracts—in the other it detracts. Keep the front nicely painted and windows well trimmed, for it's the first thing seen and the last thing noticed by the patrons of your establishment. A nicely trimmed window is a positive guarantee that the merchandise contained therein will be seen and appreciated by the passers-by. Skill in harmonious blending of colors and shades is an art that all successful window-trimmers must cultivate.

For harmonious blending of colors and shades observe the following: Red and green intensify each other. Yellow and indigo are perfect in combination. Red and orange will not work. Red and yellow will work fairly well. Red and blue accord nicely if the red incline to scarlet. Blue and violet will never do. When two colors blend badly it is well to separate with white. Black never produces a bad effect when it is found with two bright shades. Black and white are splendid. Gray may be all right with bright shades, but in many cases it looks dull. Blue and orange each intensifies the coloring in the other and the contrast is grand. Red and violet never. Red and orange only fair. Orange and green not well. Orange and violet but little better. Yellow and green form a good combination. Greenish yellow and violet are right. Green and blue or green and violet produce an indifferent effect in contrast.



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HENRY HAYES, . . . . . Of Brooklyn Watch Case Co.  
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DAVID UNTERMAYER, . . . . . Of Keller & Untermeyer.  
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For further information, application blanks for membership, by-laws, etc., address  
P. O. Box 1037, 170 Broadway, New York.

The regular monthly meeting of the executive committee was held at the Alliance office on Friday, October 9th. Present, N. H. White, vice-president; Bernard Karsch, treasurer; Messrs. Abbott, Sloan, Ball and Geo. H. Hodenpyl, secretary.

The following were admitted to membership: Martin, Copeland & Co., 151 State Street, Chicago, Ill.; W. C. Shaw & Co., 1005 F Street, N. W., Washington, D. C.; G. H. Strong & Co., Third Street, Ouray, Colo.

"I have been established in the jewelry business for more than twenty-five years, and take nearly all the journals, but cannot do business without The Keystone from my native State."—A. R. Peters, jeweler, Eureka, Kans.

## As to Low Prices.

"Price tells," Money talks," "The longest pole takes the persimmon," and "The shortest price catches the buyer." These and a thousand similar apothegms, says a pamphlet issued by a Philadelphia concern, are daily rehearsed and warmed over to illustrate the fact that low prices are the "open sesame" to the golden road of business success. Never, perhaps, in the history of our people has there been a period when prices were so low, and low price so imperatively demanded, as the present. Bargains run riot in wild, unrestrained frenzy. Prices—proper prices—have shrunk like a punctured toy balloon.

Amid all the din of smashing prices and falling values we hear a still voice, but firm and strong and vigorous—and, listening, we catch our second wind.

Low prices are not everything, it says. Low prices is a tricky crutch; lean on it and it breaks.

Some things rank higher; are more potent in merchandising, more valuable in trade building, more enduring in business holding.

Confidence is one.

Quality is another.

And quality is the father of confidence. Quality of goods begets confidence of customers; and confidence thrives and grows apace when fed on the invigorating food of quality.

The influence of low prices is ephemeral; that of quality, enduring.

The most successful merchants lay the greatest stress on quality, rather than price. They have solved the arithmetic of merchandising. They know that quality, not price, is the arbiter of value.

If Farmer Brown pays two dollars for a horse blanket which wears four years, and John Close pays \$1.75 for one wearing one year, who bought the cheapest blanket?

Don't answer now. Jump four years and then reply. John Close has bought four blankets, at a total of \$7.00. Farmer Brown has bought one blanket for \$2.00. Difference, \$5.00.

Some day Mr. Close will learn this arithmetic and betake his permanent trade to the seller of quality. As with Mr. Close, so with his neighbor, and his neighbor, and all their various neighbors. And the business of the quality man will grow and thrive and prosper; and that of the low-price man will grow lean and small, like his prices.

This is no fancy sketch or fairy tale. It is hard, cold facts, which have built up many a prosperous trade.



# Aikin-Lambert Jewelry Co.

19 Maiden Lane, New York,

ARE FULLY PREPARED TO FILL YOUR ORDERS  
FOR

## WATCHES DIAMONDS JEWELRY

Selection packages when requested.

We only ask for a trial

Novelties in GOLD, SILVER and PLATE.

*Gold and Silver*

### *Refiners and Assayers*

### *Sweep Smelters*

## L. LELONG & BRO.

S. W. Cor. Halsey and Marshall Sts.

Newark, N. J.

## EUGENE DEIMEL,

WHOLESALE JEWELER.

A full line of these goods  
always in stock

Watches, Clocks, Chains, Charms,  
Tools and Material.

Orders for Materials and Jewelers' Findings accurately filled on shortest notice.

Orders for the LATEST NOVELTIES and NEWEST STYLES promptly filled.

No. 157 Jefferson Street,

DETROIT, MICH.

YOUR PATRONAGE SOLICITED.

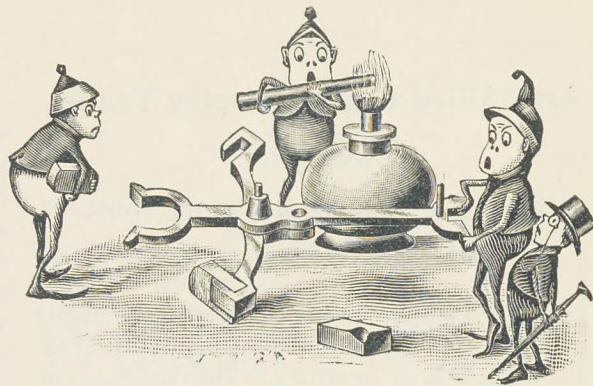


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Horological

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ESTABLISHED 1888.



The best School to attend to learn

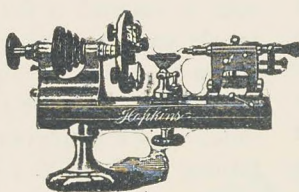
Watch and Jewelry Repairing, Engraving and Optics.

SEND FOR CATALOGUE TO

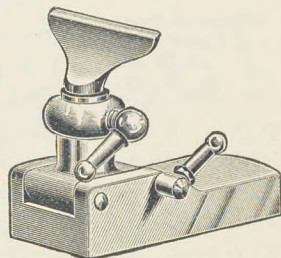
ELGIN HOROLOGICAL SCHOOL, Elgin, Ill.

## Hopkins Lathes,

with chuck combinations, are all  
furnished with our **Tip-over T**  
Rest without extra charge.



SEND FOR  
ILLUSTRATED  
PRICE-LIST OF  
LATHES, ATTACHMENTS  
AND  
SPECIAL TOOLS.



HERE ARE A FEW OF OUR BEST SELLING SMALL TOOLS:

|                                                    |         |
|----------------------------------------------------|---------|
| Waltham Screwdrivers, five in set,                 | \$1.50. |
| Set A Counterbores, twelve sizes, for case screws, | 2.50.   |
| Set B Counterbores, seven sizes, for jewel screws, | .75.    |
| Hopkins Watch Case Tool,                           | .75.    |
| Hopkins Jewel Bezel Opener,                        | .75.    |

WALTHAM WATCH TOOL CO., Springfield, Mass.



PORTRAITS

LANDSCAPES

BUILDINGS

### CATALOGUES

COMPILED AND ILLUSTRATED  
FOR ANY BUSINESS.

JEWELERS' AND WATCHMAKERS' WORK A SPECIALTY.

To Jewelers and Silversmiths

## WE ELECTROTYPE EVERYTHING UNDER THE SUN!



Special attention to **HALF-TONE ELECTROTYPING**, and we make them  
as good as the original in every case

### Duncan & Company, Electrotypers

621 & 623 Commerce Street, Philadelphia

Oldest Stereotype Foundry in America—Established 1815



## Workshop Notes.

Persons wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications.

*"Lever Escapement."*—I would like to construct a large running model of the lever escapement, with balance about 6" in diameter. Where can I get material such as pallets, hairspring and escape-wheel? Give sizes and length of lever, staff, etc.

You can get such parts of M. Mackellar, P. O. Box 2674, Philadelphia.

*"Platinum."*—(1) Can platinum be soldered to gold? (2) Will it discolor or oxidize by coming in contact with sulphur or rubber? (3) What are its wearing qualities compared with those of gold? (4) Can it be worked and rolled as gold is done?

(1) Pure gold will flow on platinum like a solder, and alloyed gold can be soldered to platinum by first flowing on a surface of pure gold, to which the lower karat of gold is soldered. (2) Platinum does not blacken from sulphur. (3) Pure platinum is a little harder than pure gold, and wears a little better. (4) Yes.

*"Brass Signs."*—Please tell me how to polish an outdoor brass sign with black paint letters on it; and what to put on to keep it from tarnishing.

We presume you mean an engraved brass sign with the letters filled in with black paint. If so, any of the many polishing compounds on the market will answer for polishing. A favorite polishing paste for brass is composed of one part oxalic acid dissolved in eight parts water; to this add sixty parts of pulverized tripoli, eight parts soft soap and eight parts of lard oil. These ingredients are thoroughly mixed, and applied by rubbing with a woolen rag. Freshly burned lime shaved into a powder with a knife and mixed with cosmoline is an excellent polishing compound for outdoor brass. We know of no satisfactory protection for such signs when exposed to the weather.

*"Violin."*—(1) I have a violin with the following card inside: "Antonius Stradivarius Cremonensis Faciebat Anno 1716"; then a cross and the initials I. H. S. I would like to know where it was made, and as to whether it is valuable. (2) Where can I get a book on making small electrical machinery?

(1) It is impossible to judge whether the violin is a genuine Stradivarius or not. The date is all right, as this celebrated violin maker lived from 1649 to 1737, and his best work dates from 1700 to 1725. This period established the Cremona pattern. As to the genuineness of the instrument, we are entirely unable to judge, even if we had it in our hands. A few experts profess to be able to tell a genuine Stradivarius. If genuine, the instrument is highly valuable. (2) We think a good book for this would be "Electrical Instrument Making for Amateurs," by S. R. Bottone; price, fifty cents. Can be had at this office.

*"Spoon Handle."*—(1) How to remove a case spring which sticks or is rusted in case? (2) What to wash steel pieces in, which have been soft-soldered, so they will not rust?

(1) Usually, if a little coal oil is applied and allowed to soak in, the screw which holds the spring can be turned out. Such application of coal oil also facilitates removal of the case spring. If the case is light, and fear of bending is entertained, set the case on edge and fill in around the spring with sulphuric or muriatic acid diluted with four parts of water, and allow it to stand for several hours. We have seen a loop of wire soft-soldered to an obstinate case spring, to give hold for pulling it out. (2) Small articles can be boiled in alcohol in which a little fine chalk has been scraped with a knife. Where a large number of steel pieces have to be dealt with, lime water or "milk of lime," that is, simple slacked lime with a liberal quantity of water, is about the best substance to annul the action of the acid.

*"Charcoal."*—I would like to know how charcoal is prepared for jewelers' use.

There are a great number of processes for preparing charcoal for jewelers' and engravers' use. Charcoal burned from the ordinary willow is much esteemed for holding hard-solder jobs. So also is charcoal from seasoned basswood. Charcoal from several kinds of close-grained woods, like white holly and some of the birches, is used by copper-plate engravers for smoothing their plates. Prepared charcoal is generally made of the dust of charcoal pressed into moulds. The dust is combined with some substance like a solution of silicate of soda, to hold the particles together. The charcoal dust is moistened with a solution of silicate of soda and pressed into iron moulds, and then subjected to a powerful pressure to bring the particles to a compact state, and in this condition dried. About the best process for making charcoal blocks is to mix fine charcoal dust, with strong syrup of sugar, pressing the composition into strong iron moulds with a screw press, and while in the moulds the blocks are heated red hot, which carbonizes the sugar, and the entire contents of the

box is charcoal. The dried charcoal tablets composed of fine charcoal and silicate of soda—also called water glass—can be made so as to be almost incombustible, or so they will aid the blowpipe action by slowly burning, by varying the relative proportions of charcoal and the silicate. The object for which the tablets are to be used will dictate as to how the combination should be made. Silicate of soda is also used for asbestos pads.

*"Clock Trimmings."*—I have occasion in my work to bend the trimmings on onyx clocks. They are made of some composition of zinc, and break very easily. Can you tell me any way I can bend them without breaking?

Zinc heated to about 300° F. becomes very plastic, bending like lead. Usually, boiling water will afford heat enough to make zinc bendable. If water will not do it, use lard oil; but do not heat much above 300° F., because zinc again becomes brittle at about 400° F. Many thermometers are graduated to read above 300° F., and with such a thermometer the oil can be maintained at the proper temperature. In absence of a thermometer, an alloy of equal parts of tin and bismuth can be placed in a bottle and hung in the oil. This alloy melts at 286° F., and if the oil is kept a little above the melting point of the alloy it will cause the zinc to work all right. Of course, some devices must be provided to handle the zinc articles to be bent. Cloths do not answer well, as they soon get soaked with oil and produce cruel burns. Wooden pliers of the proper shape and strength seem about the best adapted for holding the pieces for bending.

*"Platinum and Iridium."*—(1) I have used your soft-solder destroyer very effectively, but have been unable to prevent its discoloring the article. (2) Give me rule for raising the quality of gold with fine gold, also how to make yellow gold. (3) What is the difference between platinum and iridium?

(1) Dip the discolored articles in a solution of cyanide of potassium one ounce, water one quart. If this does not effect the object, use the electric stripping process. To do this, make a solution of two ounces of cyanide of potassium in one quart of water, then attach the article to be treated to a copper wire leading to the positive or carbon pole of a galvanic battery or small dynamo and hang it in the solution. Opposite to it place a piece of sheet copper attached to a copper wire leading to the zinc or negative pole. A few seconds does the work. You need a current of at least eight volts for this purpose, and consequently will require at least four improved Fuller or Bunsen cells set up in series. (2) Yellow gold is only pure gold. The rule for alligation in any common arithmetic will set you right on this. (3) Platinum and iridium are each separate metals, as much so as tin and zinc. In many respects they are very similar and usually found together. Platinum is soft and ductile, while iridium is harder than hardened steel. The specific gravity of platinum is .20337; iridium, .23000. Iridium is used for pointing gold pens, producing the so-called diamond-pointed pens.

*"Full-Jeweled."*—(1) What is meant by a full-jeweled watch as seen in Swiss watches? (2) Please explain the "counting method of selecting a hairspring for a watch." (3) How do you test a watch balance for poise? (4) How to remove stains from the inside of watch cases? I have cases from which cyanide would not remove the stains. (5) How to polish gold cases so as to show no scratches or fine lines?

(1) Fine Swiss watches have twenty-one jewels; of these, twelve are hole jewels, six are cap jewels or end stones, and to these add two pallets and one jewel pin, making twenty-one. (2) The counting method for putting in hairsprings is conducted as follows: A spring is selected which is supposed to be about the proper strength, and is pinned into the collet, trued in the flat and the round, and placed on the balance-staff. The outer coil of the hairspring is then seized with the tweezers at about the point where it is to be pinned into the stud, the lower pivot of the balance-staff resting on some smooth, hard substance. The balance is now given a rotary motion and every other vibration is counted, that is, say, every time the balance turns to the right. With a watch beating 18,000 vibrations to the hour we should have 150 vibrations to the minute, 75 to the half minute. The vibrations are counted in comparison with some accurate timepiece. If we have, say, seventy vibrations in a half minute, the spring is too weak, and we set the tweezers forward on the coil until we find the point where the balance will make exactly 150 to the minute. If the vibrations at the first counting are, say, eighty to the half minute, it indicates a spring too strong, and we should set the tweezers at near or quite the outer end, and count the vibrations again. If quicker than seventy-five the spring should be rejected as too strong, and a weaker one chosen. Some workmen temporarily attach a spring to a balance with a little beeswax at the center, and make an approximate counting, to see if the spring will serve; but in this day hairspring gauges save this bother, and a spring is chosen and pinned in at once, and then by changing screws and timing washers the watch is brought to time much quicker than by counting. Some workmen have a trick of "bouncing" a balance, that is, they move the tweezers up and down in unison with the vibrations thus giving the balance a great motion easy to count. (3) The ordinary flat-jawed poising tool is the best instrument for this purpose. This instrument is set so the upper edges of the jaws are level; said jaws are then adjusted by the screw so the pivots will rest on them, the edges of the jaws supporting the pivots at right angles to their axis and about in the middle of their length.

The heavy side of the balance will instantly turn down. Now it is optional whether we remove some weight from the heavy side, or load the light side. If the balance is of the chronometer or compensation type, we can turn out a little under the head of the screw to lessen its weight, or we can place a timing washer under the head of a screw opposite to the heavy side. Which of these courses to pursue will be indicated by how the regulator stands when the watch is running. Thus, if the regulator stands toward the fast side, put timing washers under the opposite screw-head; this will make the rate of the watch a little slower and bring the regulator in the center of the index arc. If dealing with a plain balance, such as we find in cylinder watches, place the balance in a step chuck, letting the banking pin come in a split; then with a round-point graver gouge out some of the metal from the heavy side. (4) Usually a strong solution of cyanide of potassium—one ounce of this salt to one quart of water—will do it if the solution is fresh and good. If stains do not yield to this, place the case in a stripping solution composed of pure water one quart, cyanide of potassium two ounces. The stained case is attached, the same as an anode, to a galvanic battery or a dynamo, and a plain plate of copper as a cathode. A few seconds passage of a strong current of electricity, and the stain is gone. (5) See our reply to "Restoration," page 147, February, 1896, KEYSTONE.

*"Silver-Plated Ware."*—(1) How to clean silver-plated ware with cyanide, also how to polish same with buffs and rouge? (2) How to protect such goods by collodion?

A cyanide dip is made by dissolving one-quarter pound of pure cyanide of potassium in one gallon of water. Some workmen only use two ounces of cyanide to the gallon of water, but our experience favors the stronger dip. Thorough rinsing should always follow the use of the cyanide solution. Buffing is usually done with the polishing lathe, employing cotton-flannel buffs and soft rouge. The foot-lathe for such work is the bicycle type, where you can get the power on, and then use 4" or 5" round buff. For broad surfaces nothing equals the palm of the hand, with soft rouge mixed with equal parts of alcohol and water. Such mixture is the one to use with the cotton-flannel buffs mentioned above. For the management of chased and engraved silverware see our reply to "Bright Cut" on this page. The great secret in all metal polishing is to avoid dirt and dust. Dirty buffs rolled around the bench, and rouge mixed up and allowed to stand open to dirt, will never produce a fine black polish, and no workman of any experience would attempt to effect even a half decent polish with such materials. (2) Collodion is made by dissolving soluble gun-cotton in a mixture of alcohol three parts, sulphuric ether four parts. Enough gun-cotton is dissolved in the mixture to form a firm film on the silver when the alcohol and ether have evaporated. There can be no definite proportions given for the amount of gun-cotton, because the same weight of this material does not always produce the same results. About the best practice is to have the collodion film no thicker than will produce a perfect coating. Some samples of gun-cotton will, for equal weights, produce double the volume of collodion another will. To be sure, the film of collodion in one instance is thinner, but equally effective for protecting the article from atmospheric effects. A lock of long fibre cotton can be used to apply the collodion. Applying collodion to silverware can be compared to varnishing cabinet work—it requires a sort of manual dexterity only acquired by practice.

*"Bright Cut."*—I have a cyanide dip, consisting of half pound of cyanide to one gallon of water, to use for cleaning silver-plated ware, and it works well with the exception of bright-cut goods, which will come out somewhat discolored in the engraving. There is something which can be added to prevent this; will you be so kind as to inform me what it is?

There have been many things suggested for adding to cyanide dip to improve it, among which is spirits of ammonia. Our choice is the simple cyanide solution for the dip, employing the ammonia subsequently, mixed with washed whiting. The chief secret of success lies in preparing the whiting. To do this, take about two pounds of whiting, mixing it with at least two gallons of water in an earthenware crock which tapers toward the bottom. The whiting and water are thoroughly mixed and stirred to incorporate them, when the whiting is allowed to settle perfectly; after which the water is poured off and the whiting allowed to dry into a cake by setting the crock on the back end of the stove. After drying, the cake of whiting is knocked out, and the coarser particles shaved from the bottom of the cake with a knife. Some of this washed whiting is mixed with ammonia and water in the proportions of one ounce of whiting, one ounce of strong spirits of ammonia and six ounces of water. After the engraved silver-plated articles are removed from the cyanide dip they are well rinsed in water, then brushed over with a thin paste of the whiting composition, and brushed vigorously with a medium-stiff brush until the whiting dust is removed. For plain, smooth silver surfaces use the cyanide dip as before, then rinse and apply soft rouge mixed with equal parts of alcohol and water to a thin paste, and polish with the palm of the hand. The blacker the hand, the better the polish. Some workmen use a solution of hyposulphate of soda in water to remove stain from chased silver—a half-pound of the salt to one quart of water. Silver articles so treated must be extra well washed, and then treated to the whiting and ammonia process as before. A little practice with the washed whiting and ammonia process will soon get one to do the cleaning of silver-plated ware in a way to please. A damp, soft old linen towel helps to quickly remove the whiting.





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## Workshop Notes.

Persons wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications.

**"Aluminum."**—*I have often to fix aluminum spectacles, and I cannot solder them with either soft or hard solder. How is such work done?*

Our expert says he was never able to do satisfactory work on aluminum goods, but says the Pittsburgh Reduction Co., Pittsburg, Pa., sells a solder for soldering aluminum, with instructions for use. This Company probably knows as much about aluminum and aluminum solders as any concern in existence.

**"Toronto."**—*(1) If I should use coin silver for plating, would the work look well when finished? It seems to me there would be but little difference in the color of plate if an anode of 33% or one of 88% was used. Would the alloy injure the solution? (2) Is it not better to have your solution warm when plating, than cold?*

(1) The trouble in using alloyed silver for plating purposes is, (a) That by some methods of making a silver-plating solution the alloy is lost; (b) and as regards using an alloyed anode—say coin silver—the copper of the alloy, while being dissolved into the plating solution, is not deposited with the silver, but is retained and accumulated in the solution, chiefly from the fact that it requires a current of higher voltage to deposit copper than silver. No practicable plan has yet been devised for plating in silver alloys. (2) No gain by heating silver solution.

**"Cane Head."**—*(1) What is best for fastening on cane heads when they become loose? (2) How to repolish ebony canes when they have been scratched by the holes they stand in?*

(1) About the best cement for this purpose is a mixture of equal parts of rosin and brickdust, formed by melting the rosin and adding the brickdust. The parts to be joined should be heated to melt the rosin. (2) There is no remedy for scratches on a cane, except to remove the scratches by fine sandpaper and repolishing. If the scratches are slight and insignificant, they can be removed by pulverized pumice stone. To do this, take a piece of cotton flannel and fold it flat to six or eight thicknesses, forming a pad about 3" by 5". Wet this and dust it with pulverized pumice stone. Rub the cane with this until all scratches disappear; then repolish. To do this, dissolve shellac in alcohol in the proportion of one-half ounce of shellac to two ounces of alcohol. Add one-eighth ounce of camphor gum. Next procure some boiled linseed oil. Again fold a piece of cotton flannel (woolly side in) as before, but a smaller pad, say, 3" by 4". Pour a spoonful of the dissolved shellac on the pad and drop on six or eight drops of boiled oil. Rub the cane vigorously with the pad coated with shellac and boiled oil. At a certain state of the rubbing a fine polish will be given. A little practice will set you on right the process.

**"Demagnetizer."**—*I wish to make a demagnetizer to work on a Thompson-Houston alternating electric light circuit of 104 volts. It is to be like the Berlin demagnetizer, having an open coil about 23 1/2" inside diameter and 4" long, with a pole changer giving a rapid reversal, say ten times per second. I have an automatic carriage upon which I place the movement, when it is slowly and steadily carried through the coils of wire and out on the opposite side of the magnetic influence. I want to know if this is practical, and how much and what size of wire to use.*

If you have the old numbers of THE KEYSTONE you will find on page 31, December, 1889, the description and illustrations of a demagnetizer almost identical with the Berlin, which was patented March 28, 1890. If you employ an alternating current, as you state, you do not need any "pole changer," as you term it, as the current is reversed in such circuits from 50 to 150 times per second. But it is important you should be positive your electric light current is an alternating current, because if it is a direct current you will then need your device for reversing the current and doing it more rapidly than ten times per second. Your reversing device should be arranged so you can run up from ten reversals per second to 100 or more. You will need at least twelve pounds of No. 18 American wire gauge wire for your open coil or helix. Even this amount of wire would heat rapidly. You could cut this amount of wire down by using a resistance coil, but you would detract from the efficiency of your machine by doing so.

**"Nevada."**—*(1) How is the process of electrotyping conducted? (2) How is the impression obtained on a boxwood block for half-tone cuts. (3) What is the best book on the subject?*

(1) We have a series of articles in preparation on this subject. It will probably be several months before they appear. The details of this process are too long for this department. (2) Half-tone work is not done on boxwood, but on metal plates—zinc or copper. A brief explanation of the process can be given as follows: A photographic negative is taken of the picture to be engraved. In taking this negative a ruled screen is interposed, which breaks the pic-

ture up into small squares. The plate to be engraved is coated with a solution of gelatine and bichromate of potash and dried in the dark. Such coating has the physical property that, after being exposed to sunlight for a few minutes, it becomes insoluble. Now this gelatine-coated plate is exposed under the special negative which was broken into squares with the ruled screen. Now, it is evident that where the sunlight has passed through the negative the gelatine is insoluble. The entire surface of the gelatine is next inked with a roller and printers' ink. The metal plate is now placed in water and the gelatine surface rubbed with cotton, when the gelatine unaffected by the light will wash away leaving the insoluble lines coated with printers' ink. This inked surface is dusted with pulverized rosin and heated, when the rosin dust incorporates itself with the ink and acts as a resist for the etching process which eats out the metal between the lines. (3) "Photo-Engraving," by W. T. Wilkinson; price, \$3.00; can be had at this office.

**"Pearl Buttons."**—*Please tell the best cement to cement the backs on pearl cuff-buttons.*

Stockholm tar one part, rosin one part, gutta percha three parts; melt together and form into sticks. Heat the pearl in a vessel of clean dry sand to about 300° F., and apply the cement by rubbing a stick of it on the heated pearl. The pearl can be heated over a lamp if care is taken not to burn it. A mechanical fastening is the best if properly carried out, the only difficult point being to form a sink in the pearl which has the sides undercut—a job no way difficult with the proper tools. We show at Fig. 1 a view of the back of an ordinary round pearl button with a recess at B. Fig. 2 is a vertical section on the line x, and as if seen in the direction of the arrow i. It will be seen that the recess B is undercut at v v. At y, Fig. 3, we show a metal disk with the button eye u hard-soldered to it. The disk y is concave on the back as shown at s. Now it is evident that the disk y will freely enter the recess B, and if y is flattened out its edges will expand and be firmly held by the undercut at v, Fig. 2. The only difficulty is to undercut the sink B at the sides as shown at v. To do this we need two mills of peculiar construction, the first of these mills is shown at Fig. 4, the part C being of the size and taper to fit a taper chuck. The outer end C' is turned to the size of the sink B, Figs. 1 and 2. The face of C' opposite the arrow k is cut into teeth as shown at t, Fig. 5, which is an end view of Fig. 4 seen in the direction of the arrow k. This mill only cuts the sink B; the mill shown at Fig. 6 does the undercutting. The shape of this mill is well shown in the cut.

The part D is turned to the proper taper to go into the taper chuck up to the line a. The part D' is split up to r into four parts, one of the splits being shown at r r'. The part D' is reduced in size as shown at m to give spring to the four segments forming the end D'. We show at Fig. 7 an end view of Fig. 6 as if seen in the direction of the arrow c. The end D' is cut into teeth as shown at v'. The dotted lines at n, Fig. 6, represent an axial hole in this mill. This hole is about 1/8" in diameter. The end at r of this central hole represented by the dotted lines n, Fig. 6, is a hollow cone; said hollow cone serving to force the milled edge v' outward to produce the undercut. The device which forces the milled edge v' out is simply a piece of steel wire with a slightly rounded end to act against the hollow cone at r and force the segments D' D, Fig. 7, outward. We show at Fig. 8 the wire which passes through the hole n in D D' to spread the cutting angles v'.

This wire n is long enough to have the button n' extend beyond the hand-wheel on the drawing-in spindle. The recess B need only be about 1/8" deep and undercut 1/4". The concave disk y is flattened by a flat-faced punch which has a recess to receive the eye u. Good judgment will suggest the proper thickness of metal for y.

**"Smelter."**—*How can a jeweler with the usual appliances determine the value of different ores and deposits containing gold?*

In nature gold seldom occurs in combination with other metals to any extent. A native alloy of gold and silver in the proportion of sixty-four parts gold to thirty-six parts of silver is found, but is so rare as to need no further mention. Gold is never found absolutely pure, but varies in fineness from 19 1/4 to 23 3/4 karats fine. Probably what you desire to know is how to approximately determine the value of gold-bearing rocks. The usual form of such rock as found in the United States is quartz, where the gold is disseminated in spangles. To properly estimate on the value of such rock requires quite as much good native sense and judgment as it does metallurgical skill, because a quartz specimen might be selected which would indicate a mine of immense value, when in fact tons of rock would have to be mined to obtain but a small amount of gold. We should seek to determine what the gold output would average per ton.

This being determined and the cost of mining deducted, a pretty fair estimate of the value of a mine can be made. To assay such ore the rock to be tested should be roasted, that is, kept at a red heat for several hours, to render it friable, and then carefully crushed to permit the gold to be separated, which can usually be done by simple washing. For small assay purposes a common iron mortar and pestle can be employed, but for more extended operations dealers in laboratory supplies offer handpower rock-crushing machines of great power and efficiency. The fine particles of gold remaining after washing are fused into a button with a flux of some kind and weighed. The exact karat of the gold button is seldom tested, but accepted as of coin fineness. Where gold is associated, as it often is, with pyrites the analysis is more difficult, but usually the use of mercury will afford one the means of determining the gold percentage very closely. The mercury for this purpose should be very pure. The principle on which the amalgam process of gold separation is conducted is based on two physical facts: (a) Gold, being of greater specific gravity than mercury, sinks in the fluid metal; (b) mercury, being fluid at ordinary temperatures, alloys with the gold, forming an alloy known as amalgam. To separate the gold from the amalgam all that is necessary is to heat it, when the mercury is given off as a vapor, the gold remaining. In all large operations the mercury vapor, is condensed and the mercury used over and over again. Many instances exist where gold is combined with pyrites of other metals to a paying extent, and yet the particles of gold are so small as to be invisible to the naked eye. Such ores can be tested by roasting, pulverizing, and agitating in a wooden or glass vessel with water and mercury. The perfection and success of all such tests depends in a great degree on the skill and experience of the investigator. But we would say that if gold really exists in any ore, one or the other of the processes we have described will detect it, and then the only safe plan is to place specimens in the hands of an expert in such matters. The soda amalgam process is an improvement on the ordinary amalgam treatment. A great deal is claimed for the newer cyanide process, but space will not permit further consideration of this matter. A good treatise on this subject is "Notes on the Treatment of Gold Ores," by F. O'Driscoll, price, \$2.00; can be had at this office.

**"Caution."**—*(1) What kind of oil should be used on watch mainsprings? (2) How to polish rusty pinions? (3) Should there be any oil on center staff pivots? (4) What is meant by "let off" in escapement work? (5) Is it policy to turn down a center staff where the pivots are worn, and close hole in plate with round-faced punch? Is there danger of the pivots being made too small?*

(1) Most workmen use a liberal quantity of watch oil, the same as they use for the rest of the watch. Some workmen use clock oil for the mainspring, also for the arbor bearings and center holes. Vaseline is used by many for lubricating mainsprings. A rag is saturated with vaseline and the spring well rubbed with it. (2) We have seen many devices for polishing rusty pinions, but for job-shop work our method is to flatten the end of a piece of pegwood in such a manner that when it is cut oblique across the end the edge will be of equal thickness. To remove rust this wooden wedge—the edge cut just thick enough to fit the spaces between the leaves—is moistened with oil and oilstone dust and rubbed back and forth between the leaves. If the rust is very pronounced, a piece of brass wire flattened and cut oblique, as for the pegwood, is first employed with oil and oilstone dust, and then the pegwood and oilstone dust are used. The leaves are smoothed with the oilstone dust and oil, and then they are polished with a pegwood cut to the same shape but using diamantine and alcohol. If a pinion is deeply pitted with rust, throw it away. (3) Certainly; oil every part of a watch movement where there is friction. (4) We suppose it means "drop." We do not call to mind any horological work where the words are employed. (5) A center arbor in no instance should be turned down so as to not leave a reliable support for the cannon pinion. Closing holes in American watches is hardly justified at the prices charged for material. The ruling idea in all watch repairs should be to restore the watch to as near the original condition at the time it was made as possible. The correct way, in case a center arbor is badly cut by rust, is to put in a new center pinion, or to turn the bearing down to be a trifle larger than the part where the cannon pinion goes and then turn a steel thimble to slip on the arbor where the bearing was turned away. This plan, if well done, restores the bearing as good as new; but it is an operation which requires very careful turning and fitting for the thimble to hold firmly enough to turn off. There is really no objection to employing soft solder to hold such a thimble, provided it is used skillfully and the acid from the soldering fluid neutralized by boiling in alcohol in which there is a little fine chalk shaved from a lump. Many workmen save their old cylinder shells to use for thimbles, but we hardly think the plan commendable, from the fact that such shells seldom fit either the arbor or the hole in the plate. Our practice has been to keep some bits of steel about 1/8" in diameter and 1/2" or 3/4" long, hardened and tempered to a spring temper, for such purposes. We place one of these in a suitable wire chuck, and, after centering with a graver, drill a hole in the end somewhat smaller than the arbor to be fitted. A piece is then cut (turned) from the end of the tempered wire long enough for a thimble. This cut-off piece of wire is placed in the wire chuck, and a new, sharp broach employed to open the hole large enough to drive tightly on the center arbor, which should have previously been turned to receive the thimble. The center pinion is next placed in a cement chuck, and the thimble turned to fit the pivot hole in the plate. The pivot hole now needs no closing.





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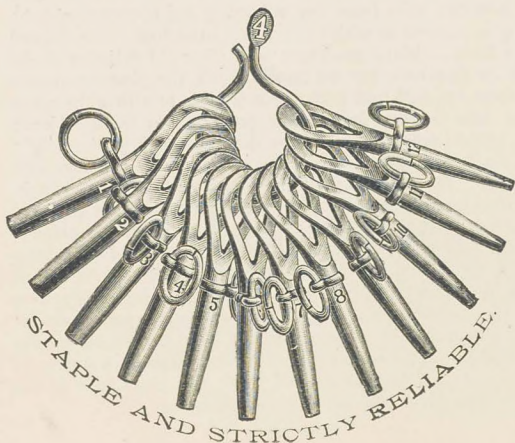
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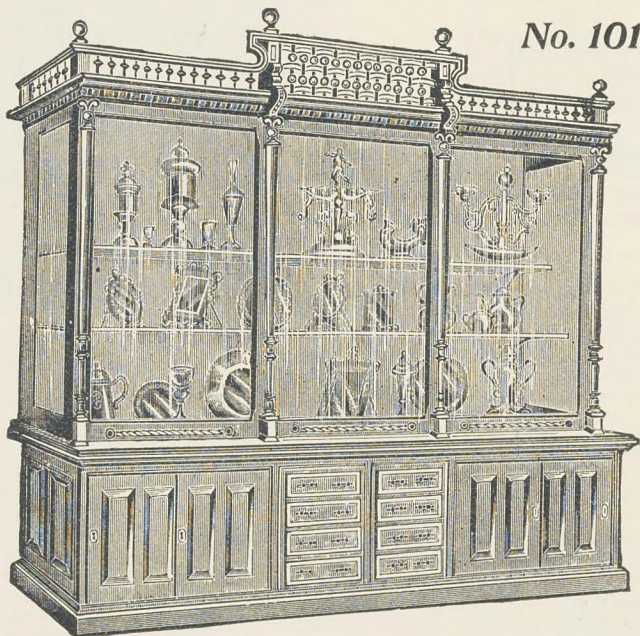
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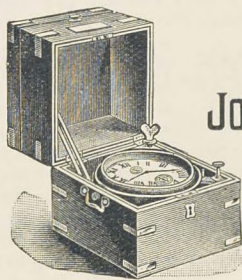
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of best workmanship for the jewelry, silverware and kindred trades at reasonable figures.  
Complete Outfits made on shortest notice. Original Designs  
furnished upon application.

Send for our New Catalogue. Mention The Keystone. Call and see us when in Chicago.



## MARINE CHRONOMETERS,

MANUFACTURED BY

John Bliss & Co., 128 Front St., New York.

We have on hand a number of Chronometers, by various good makers,  
not new, which have been in service for purposes of navigation, and are  
excellent instruments. They have been put in perfect repair, and will give  
satisfactory results as to performance. We will sell these Chronometers at  
low prices, either for cash, or on accommodating terms to suit special cases,  
or will hire them at moderate rates and allow the hire to apply on purchase.

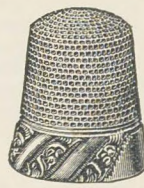
SEND FOR CIRCULAR GIVING PRICES AND TERMS.

## Cuts, Electrotypes and Printing.

We do the BEST WORK promptly and at LOW PRICES in  
JEWELERS' CUTS, ELECTROTYPES AND PRINTING.  
PLEASED TO DO YOURS. SEE OUR BEAUTIFUL EXAMPLES OF HALF-TONE AND GELATINE WORK.  
Wedding Invitations, Calling Cards, Menus, Etc., Engraved or Printed.  
THE J. J. RYDER CO., 210 WESTMINSTER STREET, PROVIDENCE, R. I.



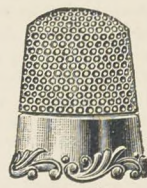
No. 143



No. 130



No. 147



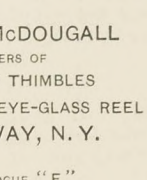
No. 136



No. 149



No. 129



No. 151



No. 144



No. 126



No. 129



No. 151



No. 139

KETCHAM & McDOUGALL  
MANUFACTURERS OF  
GOLD & SILVER THIMBLES  
AND THE AUTOMATIC EYE-GLASS REEL  
198 BROADWAY, N. Y.

SEND FOR CATALOGUE "E"



## Introductory to Seven Pages of Watch Case Illustrations

---

Election is about over, and the hustle will soon be on. Political disappointment is already dying, and the chief factors which go to make business prosperity are in evidence—big crops, a big export demand, and advancing prices. Confidence has asserted itself among manufacturers, and fires are being kindled in mill, furnace and factory. Retailers are hurrying to fill vacancies in their stock, the people are revising their long list of postponed purchases. Now, at last, your window attracts; your little advertisement interests.

In the matter of stocks your first consideration is watch cases, and the information you need in this regard you will find on the following seven pages. The illustrations represent but a few of our many new designs in all grades and sizes—in **Keystone solid gold, Jas. Boss 14 K. filled, Jas. Boss 10 K. filled, Cyclone rolled-plate, Leader silver, and Silveroid.**

Cut out these pages and have them at hand for reference or comparison when ordering or buying cases. The goods are now in the jobbers' hands; but if you have any difficulty in getting what you want, let us know and we will put you in the way of having your needs properly supplied.

Keystone Watch Case Company,

19th & Brown Streets, Philadelphia, Pa.

WHEN ORDERING any cases on the following pages, don't cut out the illustrations. It is only necessary to state the size, the number under the cut, and whether it is Open-Face or Hunting.



**The Holiday Season** is practically the only solid gold season in times like these, and most solid gold purchasers choose in advance. Even now your windows and your competitor's windows are being daily scanned and comparisons made. On the principle, then, that the best and prettiest always secure the sales, you lose by further delay in ordering samples of our new designs in KEYSTONE solid gold cases.

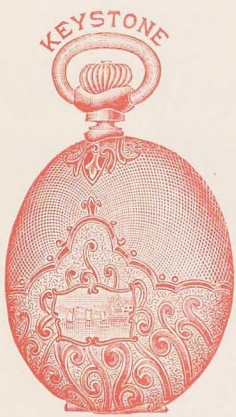
Every case made by us has this general trade-mark 

Every KEYSTONE Solid Gold case has in addition this special mark 

Keystone Watch Case Company.

### Here are a few of our New Patterns in Keystone Solid Gold:

#### O SIZE.



8652



8651



8781



8726

#### 6 SIZE.



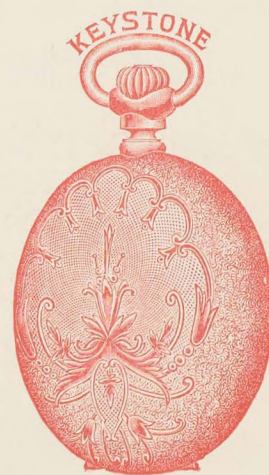
8772



8574

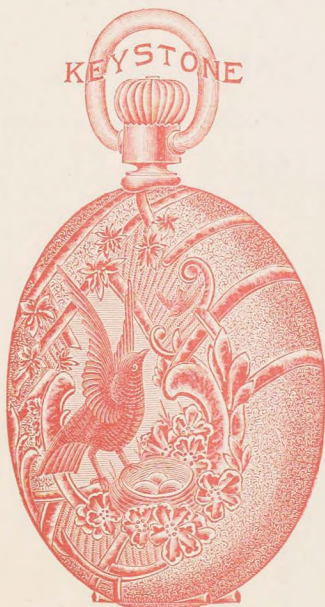


8618



8780

#### 18 SIZE.



8778



8606



8566



**Have you ever been duped** into handling any of those filled cases which, though not made by us, are yet claimed to be BOSS cases or "as good as the BOSS"? They are neither. They can be, at best, only plausible imitations. There is only one BOSS or JAS. BOSS case, that made by us. No other filled case has stood the test of time. BOSS cases have suffered no deterioration during the depression through which we have been passing. They are to-day, as ever, the only line of filled cases upon which the jeweler can absolutely depend.

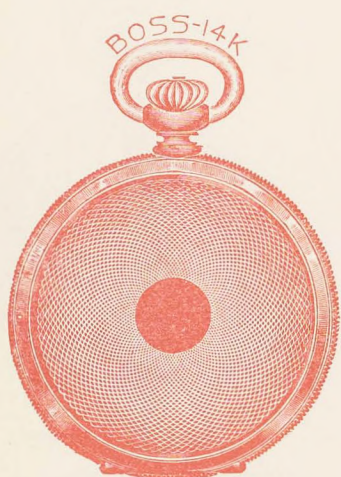
Every case made by us has this trade-mark 

Every JAS. BOSS 14 K. case has in addition this special mark 

Keystone Watch Case Company.

Prices according to Keystone Key.

### Here are a few of our New Patterns in Jas. Boss 14 K.:



A 6904  
6 Size. Htg., \$14.00



A 7781  
6 Size. Htg., \$15.00



A 7730  
6 Size. Htg., \$15.00



A 7776  
6 Size. Htg., \$15.00



A 7622  
16 Size. Htg., \$22.00 O. F., \$20.00



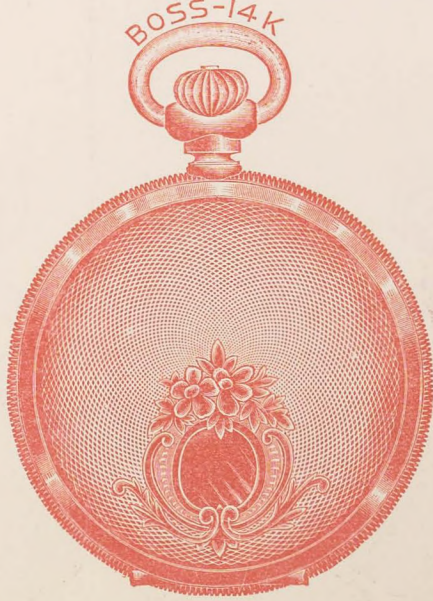
A 7341  
16 Size. Htg., \$22.00 O. F., \$20.00



A 7159  
16 Size. Htg., \$22.00 O. F., \$20.00



A 7275  
18 Size. Htg., \$22.00 O. F., \$20.00



A 7469  
18 Size. Htg., \$20.00 O. F., \$18.00



A 7369  
18 Size. Htg., \$22.00 O. F., \$20.00



**Thousands of Jewelers** have recently expressed their gratitude to us for keeping our cases a fixed, unchangeable, standard quality. The low-grade filled case product of the depression has ruined many reputations. JAS. BOSS filled cases suffered no deterioration. We could not afford to sacrifice our good name to the exigencies of a temporary depression.

Keystone Watch Case Company.

Prices according to Keystone Key.

Here are a few of our New Patterns in these grades:



A 7472  
O Size. Htg., \$13.00



A 6688  
O Size. Htg., \$13.00



A 7631  
O Size. Htg., \$14.00



A 7787  
O Size. Htg., \$14.00



A 5931  
O Size. Htg., \$14.00



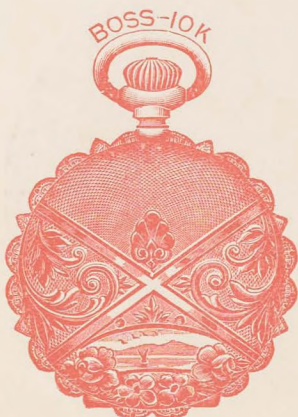
A 7175  
12 Size. Htg., \$18.00 O. F., \$17.00



A 7635  
12 Size. Htg., \$16.00 O. F., \$15.00



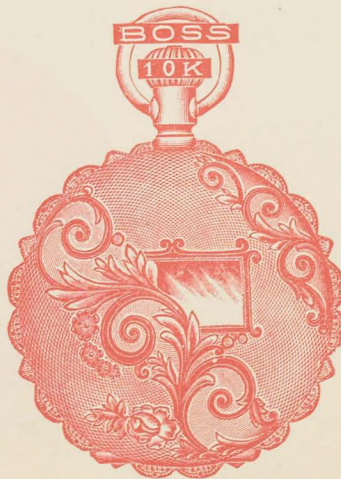
A 7492  
O Size. Htg., \$14.00



18587  
O Size. Htg., \$11.00



18260  
6 Size. Htg., \$12.00



18576  
6 Size. Htg., \$12.00



18530  
O Size. Htg., \$11.00



# NEW JAS. BOSS SCREW CASES

with regular screw bezel and back.

We have stopped making our former style of screw case, viz.: with center and bezel in one piece, and instead have put on the market a regular screw back and bezel case. The jobbers now have them in both 14 K. and 10 K. grades in plain bascine, Juergensen and engraved styles, so far in 18 size only. Other styles and sizes will follow.

Keystone Watch Case Company.

Prices according to Keystone Key.

Here are a few of the Many Patterns of Engraving:

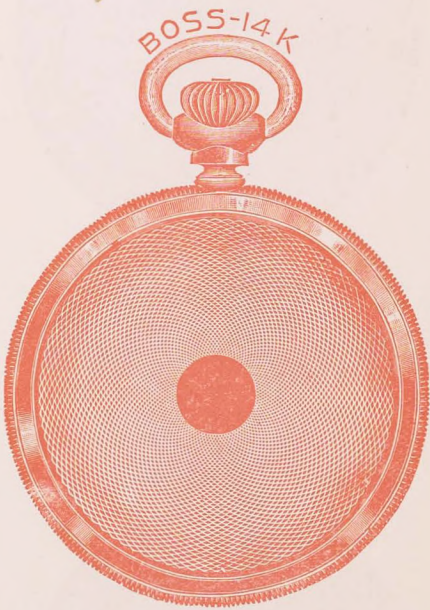
18 SIZE ONLY.



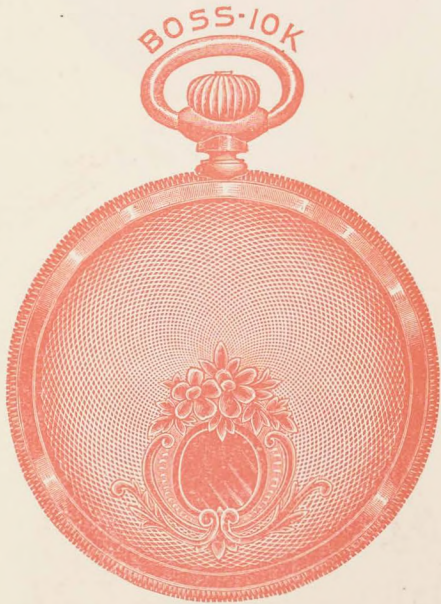
A 7869  
O. F., \$16.00



A 7866  
O. F., \$16.00



A 7878  
O. F., \$14.00



18774  
O. F., \$9.00



18772  
O. F., \$9.00



18773  
O. F., \$9.00



**The Prolonged Depression** served at least one good purpose in making known to the trade those filled case makers who did not scruple to take gold out of the cases as a set-off to poor business. Some jewelers handled these "sweated" goods to their sorrow. "I'm a BOSS man for evermore" writes one of them.

Every case made by us has this general trade-mark 

Every JAS. BOSS 10 K. case has in addition this special mark 

Keystone Watch Case Company.

Prices according to Keystone Key.

Here are a few of our New Patterns in Jas. Boss 10 K.:



18442  
16 Size. Htg., \$14.50 O. F., \$13.00



18607  
O Size. Htg., \$11.00



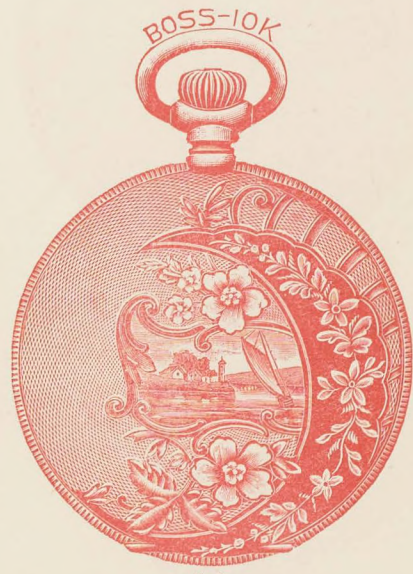
18552  
16 Size. Htg., \$14.50 O. F., \$13.00



18268  
16 Size. Htg., \$14.50 O. F., \$13.00



18670  
6 Size. Htg., 12.00



18563  
16 Size. Htg., \$14.50 O. F., \$13.00



18559  
18 Size. Htg., \$14.50 O. F., \$13.00



18546  
18 Size. Htg., \$14.50 O. F., \$13.00



18275  
18 Size. Htg., \$14.50 O. F., \$13.00



**The Lesson of 5-year Guarantees.** If certain watch case manufacturers guarantee certain cases to wear 5 years that can't wear two, how can a jeweler put faith in their 20-year guarantee? If the 5-year cases prove dishonest, so will the 20-year.

Time and wear have proved that there's one honest 20-year case—the JAS. BOSS 14 K., one honest 15-year case—the JAS. BOSS 10 K., and one honest 5-year case—the CYCLONE rolled-plate.

Every case made by us has this general trade-mark 

Every CYCLONE case has in addition this special mark 

Keystone Watch Case Company.

Prices according to Keystone Key.

Here are a few of our New Patterns in this grade:



644  
O Size. Htg., \$7.00



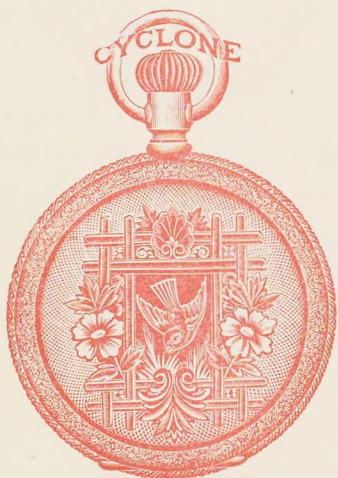
545  
O Size. Htg., \$7.00



642  
O Size. Htg., \$7.00



646  
O Size. Htg., \$7.00



645  
6 Size. Htg., \$7.50



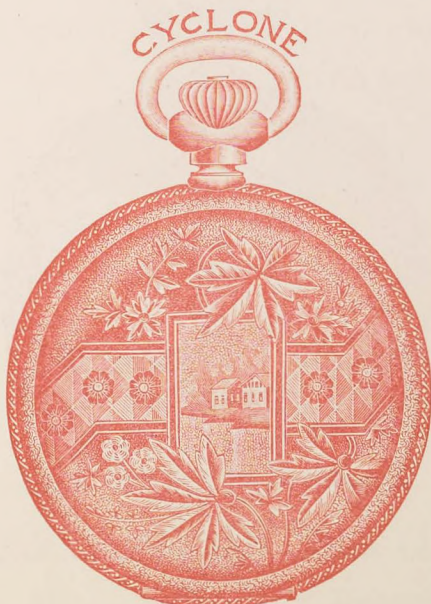
557  
18 Size. Htg., \$8.00 O. F., \$7.50



12  
6 Size. Htg., \$7.50



609  
Waltham only.  
16 Size. Htg., \$8.00 O. F., \$7.50



8  
18 Size. Htg., \$8.00 O. F., \$7.50



608  
Elgin only.  
16 Size. Htg., \$8.00 O. F., \$7.50



**The Silveroid Constituency** has been trebled increased by three years of depression, and the trebled demand has influenced us to produce SILVEROID cases in greater variety of design and with greater attractiveness of form and finish. For combined utility, beauty and price our latest SILVEROIDS are a wonder in watch case development.

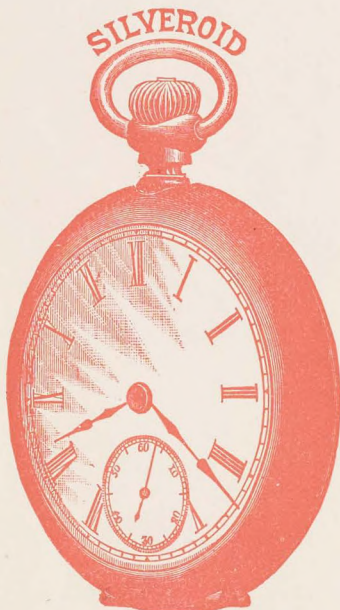
Every case made by us has this trade-mark 

Every SILVEROID case has in addition this special mark 

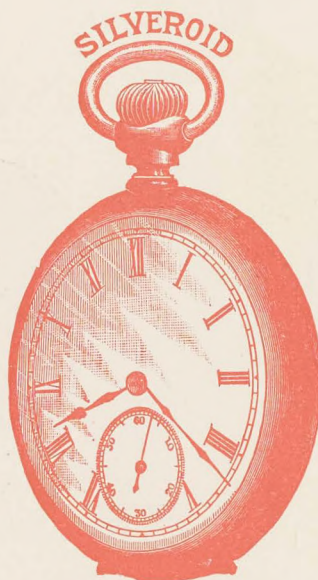
Keystone Watch Case Company.

Prices according to Keystone Key.

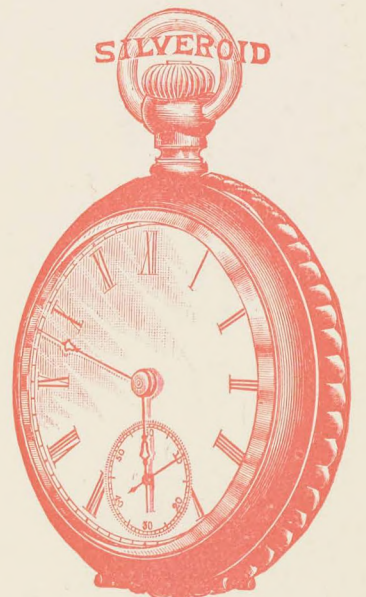
Here are a few of our New Patterns in this grade :



132  
18 Size. Htg., \$2.70 O. F., \$1.50



136  
16 Size. Htg., \$2.70 O. F., \$1.50



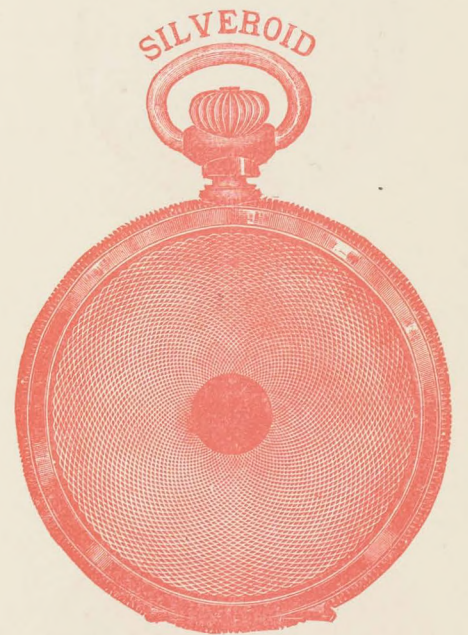
40  
18 Size. Htg., \$2.70 O. F., \$1.50



124  
18 Size. Htg., \$2.70 O. F., \$1.50



53  
18 Size. 3 oz. O. F., \$1.50



134  
18 Size. Htg., \$2.70 O. F., \$1.50

PRICES ARE FOR CASES ONLY.



901

# S. A. BOYLE & CO.

## AMERICA'S LEADING AUCTIONEERS



### THERE'S A RIGHT WAY AND A WRONG WAY

to conduct an auction. We know the right way—know it by years of successful sales.

If an old stock of jewelry is to be turned into cash, it ought to be handled by experts. "Pretty good" auctioneers are not good enough—they must be the best.

We guess at nothing—when we tell you we know we can convert your jewelry and fine art goods into cash, we do so because we have never yet made a failure.

Experience and a special fitness for the business make us succeed—'tisn't luck.

When you employ us, you don't have to turn your hand over—we look after every detail and defray all our own expenses.

If there's a gap in the stock, we supply the goods for that, too.

Auctioneering is not a side issue with us, but it is our life work. We pour all our energy and capital into the business—we are ambitious to keep at the top.

We are the only Jewelry Auctioneers in America duly licensed and commissioned by the United States government for the District of Columbia and the city of Washington.

That's a distinction worth the thoughtful consideration of any prudent business man.

Is it wise to entrust your business to any auctioneer who is not *the best*?

Write to us; your correspondence will be treated with the greatest confidence.

Jewelers should note that all correspondence is received at our own offices. Our mail is not received at the establishment of any wholesaler or jobber.

We are the only auctioneers in America maintaining our own establishments devoted exclusively to our own business.

Send us your address. Let us send you our new pamphlet, "THE DREADED RED." It will interest you.

#### OFFICES

54 Maiden Lane, NEW YORK CITY.

413 East Baltimore St., BALTIMORE, MD.

611 Pennsylvania Ave., WASHINGTON, D.C.



# A New Thing,

Which is a **Good Thing**, will interest every progressive, intelligent retail Jeweler.

These desirable features, combined with good quality and extremely low price, in our 12-Size Complete Watches will render them a very desirable addition to your stock.



12 Size, Edge View.



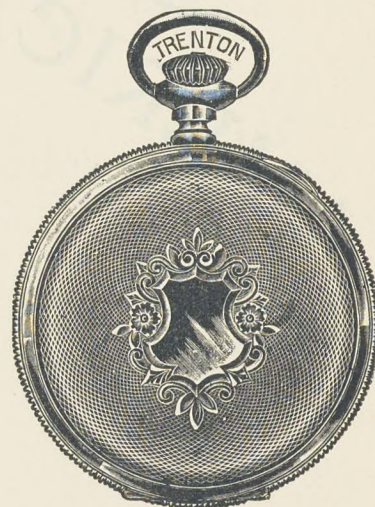
12 Size, Full Plain Polish.

12 Size, 7 Jewels.



List.  
Htg., Filled, 5-year quality, \$15.00  
Htg., Silver, . . . . . 14.50  
O. F., Filled, 5-year quality, 14.50  
O. F., Silver, . . . . . 14.00

Prices according to Keystone Key.



12 Size, E. T.

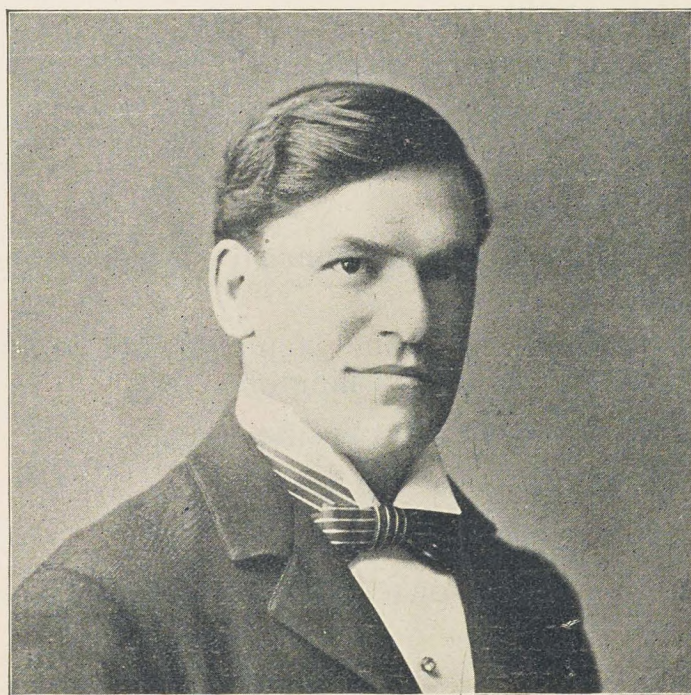
We will supply these Watches in Five-Year Gold Filled or Coin Silver Cases. Ask your Jobber for them, and insist upon receiving "TRENTONS."

We make other sizes also, which are unequalled for the price. Why not order a sample line?

## TRENTON WATCH CO.

Trenton, New Jersey, U. S. A.

WRITE FOR BOOK, JUST OUT, CONTAINING INFORMATION RELATIVE TO AUCTION SALES,  
ALSO REFERENCES AS TO ABILITY FROM THE TRADE AND COMMENTS FROM THE PRESS.



ESTABLISHED 1879.

*Herman G. Briggs,*

*Jewelry and Art Goods*

**AUCTIONEER,**

Howell, Mich.

*For Jewelers Established and Dealers in  
Art Goods.*

A FEW REFERENCES GIVEN BELOW OF SALES MADE LATELY, ANY OF WHICH WILL BE PLEASED TO GIVE YOU INFORMATION AS TO THE RESULTS OF MY SALESMANSHIP.

I ALSO REFER WITH PLEASURE TO THE TRADE AND ITS REPRESENTATIVES IN MOST PARTS OF THE COUNTRY.

ROSEMAN & LEVY, New York.  
BOWLER & BURDICK Co., Cleveland, Ohio.  
S. H. IVES, Detroit, Mich.  
W. E. SMITH, Bellefontaine, Ohio.  
A. T. WARD, Saginaw, Mich.  
C. E. ETTINGER, Cleveland, Ohio.  
LANGE BROS., Dubuque, Iowa.  
ROBBINS BROS. & Co., Fostoria, Ohio.  
GEO. NICHOLS, St. Louis and Ithaca, 2 sales.  
CHARLES TAYLOR, Steubenville, Ohio.  
CHARLES YOUNGLOVE, Newberry, Mich.  
SIFE & SIGLER, Cleveland, Ohio, 5 sales.

ALBERT SCHIRMER, Saginaw, Mich.  
C. E. BUHRE, Topeka, Kan.  
J. C. SIFE, Indianapolis, Ind.  
LEONARD KROWER & Co., New Orleans, La.  
H. J. YOUNG, Joliet and Kankakee, Illinois.  
C. E. SUMNER, Chicago, 3 sales.  
WOODWORTH, SMITH & RANDALL, Colorado Springs, Colo.  
KENNEDY & KOESTER, Detroit, Mich.  
OSCAR HENIZE, Quincy, Ill.  
HARRY HARRISON, Sault Ste. Marie, Mich.  
GEO. CLARK, Lorain, Ohio.

C. D. GARDNER, Manistee, Mich., 4 sales.  
F. B. LEWIS & Co., Cleveland, Ohio.  
W. K. LIPPITT, Norwich, New York.  
FRANK SUMNER, Cleveland, Ohio.  
F. M. YOUNGLOVE, Alpena, Mich.  
J. L. SIEVERT, Springfield, Mo.  
FREEMAN JEWELRY Co., Atlanta, Ga., 2 sales.  
ALFRED BOURGEOIS, Jackson, Miss.  
GEO. CHANTLER, Manistique, Mich.  
LION & KYLLING, Danville, Ill.  
C. W. ERNSTING, Gallipolis, Ohio.  
J. BOLLAND JEWELRY Co., St. Louis, Mo.

A. W. FORD, Freeport, Ill.  
J. M. WASHBURN, Celina, Ohio.  
WILBUR, LAMPHERE & TRAYNER, Galesburg, Ill.  
HOWARD Co., Boston, Mass.  
ALEX. MCPHERSON & Co., bankers,  
FIRST STATE SAVINGS BANK, Howell, Mich.  
R. E. SAMSON, Marion, Iowa.  
S. H. DODGE & SON, Ypsilanti, Mich.  
W. F. MAIN Co., Iowa City, Iowa.  
T. G. BURKHARDT, Jefferson City, Mo.  
A. SCHWANER, Beaumont, Tex.  
WM. J. KELLEY, Oshkosh, Wis.



## Workshop Notes.

Persons wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications.

*"Jewel Pin."*—Why do American watches have jewel pins flat on face, and not oval?

The round jewel pin flattened on one side by cutting two-fifths of it away forms the most perfect jewel pin in use, as such jewel pin at all times fills the slot in the fork except what side shake safety demands. A cut-away jewel pin also gives all the freedom of ingress and egress claimed for triangular or oval pins. Such pin has also less friction, as most of the action is a rolling of the round jewel pin on the inner face of the fork.

*"Diamond Ink."*—Where can I purchase diamond ink for etching on glass?

We cannot tell you where such ink can be bought, but the following is a recipe for making diamond ink: Saturate hydrofluoric acid with ammonia, then add an equal volume of hydrofluoric acid and thicken to the consistency of cream with barium sulphate in a fine powder. Apply with rubber stamp or quill pen; allow time to dry. On removing the white powder the glass will be found etched.

*"Bookbinders' Stain."*—How is the red or green stain on the edges of the leaves of bound volumes done?

At the time the edges of the leaves are "trimmed," that is, cut smooth and even, the leaves are pressed tightly in a bookbinders' vise. Now, while so compressed, the edges are stained with some water color. The reds are usually vermilion or some of the permanent red lakes. The colors are mixed with a little size, that is, glue just strong enough to remain a little fluid at 60° F. Stale beer will answer the same purpose. After the color is dry it is brushed over with a weak solution of white castile soap, allowed to dry, and then burnished with an agate or bloodstone burnish to produce a polish. Dyes do not answer well for this purpose, as they penetrate too far into the paper. Water colors, the same as artists use, ground with water as they prepare such colors for "washes," is what is wanted. A mixture of soluble Prussian blue and gamboge can be compounded to make almost any shade of green you require.

*"Developer."*—I would like directions for making developer for "Quad" dry plates.

The plates for this camera are not essentially different from other dry plates, and the developer is worked in the same way. It formerly was the prevailing idea that a developer should be made up of many ingredients, but this belief has fallen into discredit of late, and simpler developing formulas have been generally adopted. The plan now generally adopted by the better class of amateur photographers is on what is termed the tentative method. Two stock solutions are kept, and the dry pyro added for each plate to produce density or transparency, according to what is desired in the negative. Stock solution No. 1: Sodium carbonate (washing soda) four ounces, water sixteen ounces. Stock solution No. 2: Sulphite of soda crystals four ounces, water sixteen ounces. The water used should be either distilled water or water from melted ice. Mix one ounce of No. 1 with one ounce of pure water. Mix three-quarters of an ounce of No. 2 with one ounce of water; combine the two mixtures and add about two or three grains of dry pyro for each ounce of solution. Put your plate in your developing dish and pour on the developer to flood the plate evenly and quickly. Rock the developing dish and notice how the development comes up; if the plate seems to demand more density, pour off the developer and add a little more pyro. The idea is, the more pyro the denser; and by this plan you can regulate the density.

*"Plate Printing"* alias "X. Y. Z."—I have been trying to do some plate printing, from card plates, using a roller press made for type printing. To raise the plate I had a piece of iron, planed off on both sides, to bring the copper plate up type high, but the result is no good. I followed Cellini Jr.'s directions, as given in his "Hand-Book of Metal Engraving." I got the varnish he describes, but had to then procure the drop black and lampblack and prepare the ink principally by guess. If I wet my card I can get print enough to show, but with a dry card the impression is hardly visible. Can you help me out?

Such a press as you describe is not adapted for plate printing; we described on page 342, May, 1891, KEYSTONE, a very efficient copper plate press and directions for use. In making ink for plate printing it is a good plan to prepare the boiled oil for one's self. The method is described in Cellini's "Hand-Book of Engraving," but as the process is very simple we will repeat it: Procure the best raw linseed oil to be obtained, and placing, say, a quart in a rather deep iron vessel, proceed to heat, until it catches fire. This operation should be performed in the open air, as the burning oil produces a nasty black smoke. The boiling and burning is continued until a drop of the oil, deposited on a cold substance like a plate or stone, if taken between the finger and thumb, and these digits separated, the oil will rope, forming a filament. The boiling and burning is now stopped by spreading an old woolen garment over the vessel to extinguish the flames. A lump of drop black is now taken, and with a knife, say, about a teaspoonful is shaved off. Careful

shaving in this way reduces the drop black to fine powder more effectually than almost any ready process of dry grinding. One-half the bulk of best lampblack is now added, together with enough of thick boiled oil to make a thick paste. For grinding small quantities a glass slab and muller can be employed. If the slab is heated it will facilitate the grinding. The grinding must be most complete, and the consistency about half that of printers' ink. Printers' varnish, as we buy it, is usually too thick, and, beside, often adulterated with rosin—as rosin is cheap. Placing visiting cards in a damp cellar for twenty-four hours previous to printing facilitates the operation materially. There cannot much be done in plate printing, except in a press especially designed for the purpose.

*"West Virginian."*—(1) Where can I buy aluminum bronze powder for painting and decorative purposes? (2) Where can I get a cheap scientific weekly newspaper containing list of patents issued by the United States each week? (3) Can electrical bells of different resistance be adjusted to ring on one cell of carbon or dry battery?

(1) You can buy bronze powders of all shades and colors of Weber & Co., 1125 Chestnut Street, Philadelphia, Pa. (2) We know of no such publication. (3) We do not see how any number of bells above two could be rung separately and at will. By sending the current in different directions two bells can be rung at discretion. This result is obtained by an automatic cut-out worked by means of a permanent magnet and an electro-magnet. The current sent in one direction causes these magnets to repel, thus switching one bell out. The current sent in the opposite direction switches the other bell out.

*"Electric Battery."*—(1) How were the wheels and pinions cut to the old wooden clock? Can I make a cheap wooden machine for that purpose? (2) What is the strength of a Bunsen cell 6" by 8" by 9"? Will one such cell do nickel-plating? Ought it to have two carbons? Is this a good battery for plating? (3) Will shortening or lengthening the suspension spring of a fine French spring clock stop its running fast or slow on being wound up or nearly run down, the same as isochronizing the hairspring of a watch?

(1) These wheels were cut with a single-tooth fly-cutter running at a speed of not less than 2500 revolutions per minute. The cutter was precisely the shape of the tooth, and described a circle about 2" in diameter. A look at a machine for making wood mouldings will set you right about how to manage the cutter. We should think there would be but little trouble about making a machine of the kind you suggest which would do excellent work. (2) The voltage of such a cell is about two volts. You could not do nickel-plating with less than three such cells. The Bunsen battery is a favorite with many for electro-plating. Two carbons would be better than one. (3) Shortening or lengthening the suspension spring does not do well for isochronizing the vibrations of a pendulum. It has been tried in many instances, but has not, we think, been satisfactory. The half cylinder jewel-pin pallets often seen in French clocks seem to effect isochronism in such clocks the best of any device we have seen. The correction is effected chiefly by increased friction in long arcs of vibration. Some of the Yankee clocks claim to effect the same result by a sort of club-tooth escape-wheel, in which the increased friction again produces the isochronism. The idea is old, as adjusters produced the same result in cylinder and duplex escapements by the same agency; that is, increased friction as the mainspring power increased.

*"Regulator."*—(1) I have just repaired a Swiss regulator that had been in use about fifteen years. I found the pinions worn considerably, but the teeth in wheels in good condition. (2) Can I repair the pinions, and if so, how? (3) Why did the pinions wear more than any other part? (4) Should the pinions be oiled? (5) Will the wear of the pinions affect the time-keeping of such clock. (6) What will be the probable value of such clock as compared with a new one of same make? (7) What will I need to do plating, using an electric light line? I can get current of 110 volts from either direct or alternating light line. I wish to do nickel plating on bicycles, also gold and silver plating on a small scale. What would a complete outfit of this kind cost?

(1) See answer to question 3. (2) You can probably shift the wheel mating a pinion so as to bring unaffected parts of the pinion leaves into action. You will usually have room on each side of the worn portion of a pinion for the teeth of the mating wheel to act upon. Generally, the collet on which a wheel is set can be driven a little to one side on its arbor, thus giving the teeth new surfaces on the pinion which have not been worn. If the pinion leaves are cycloidal and have radial flanks, pits produced by wear can be filed or ground out, and the surface repolished, as the thickness of the leaf has no effect on the performance of the clock. (3) The leaves of the pinions of a clock must do eight or ten times the service of the teeth in any wheel—in illustration, take the third wheel pinion of an ordinary regulator beating seconds. If this pinion has ten leaves the center wheel usually has eighty teeth, and this pinion consequently has to turn eight times, and each leaf do as much work as eight teeth on the wheel; and the average cheap regulator does not have very hard pinion leaves, certainly not eight times as hard as hard brass, or even probably twice as hard. In our articles on "Clocks" we shall shortly treat on perfected

hardened pinions made of fine iron and case-hardened file hard. (4) No. (5) Certainly, to some extent. (6) We can give no estimate without seeing the clock. (7) You would have to use current from such a line equivalent to one or two horse power to do ordinary plating which you could do with a hand-power dynamo. Your better plan would be to put in a half-horse power electric motor to drive a small dynamo which would give a current of from four to eight volts and ten to sixteen amperes. You would by this plan do more plating and have extra power for running a polishing lathe. You should take current from direct current line—not an alternating one. A motor and dynamo for this purpose should cost about fifty dollars.

*"Non-Magnetic Watch."*—(1) I have just repaired a non-magnetic watch which has a splendid motion in all positions, but at irregular intervals gives a sound as if the hairspring was striking on some part of the watch, giving a singing sound. Every part seems to be free, and I can in no way account for the noise. (2) Do you intend to publish the recent articles on "The Lever Escapement" in book form; and if so, what is the price?

(1) It is very difficult to explain the cause of such sounds even when one has the watch in hand, and to guess what it may be with the watch many miles away is, of course, still more embarrassing. Very seldom will we find a watch which gives precisely the same sound with the balance pivots resting on the different end-stones, or with stem up or stem down. All watch adjusters, we think, have noticed a tendency of Breguet hairsprings, especially if containing a high number of coils, to "shiver," particularly in certain positions. By the term shiver, we mean to set up special vibrations. Such vibrations will usually reveal themselves better to the ear than to the eye. As, for instance, in some positions the tick is accompanied by a clear bell tone, but in other positions a second undertone is noticeable—perhaps not continuous, but at intervals—sometimes regular, but more frequently at irregular intervals. Sometimes such vibrations will be visible to the eye. That they interfere with close timing is beyond question. In most instances a slight change in the length of a spring will annul such as we may call sub-vibrations. We know all musical tones are produced by vibrations. Now it follows, as a matter of course, that impure and mixed tones indicate an irregular action of the hairspring, and must, to a certain degree, affect the timekeeping qualities of the watch. In instances such as you describe we would suggest you first try and determine if you could establish any periodicity, as, for instance, every revolution of the escape-wheel. Try also the vertical positions—stem up, stem down, stem right, stem left—and determine if in any of these positions the scraping or singing sound disappears or is repeated at more frequent frequent intervals. Change the bankings a little if they are adjustable. Trials of this kind must, if persisted in, give you a clue to the trouble. (2) It is our intention to publish this valuable set of articles sometime in the near future in book form. The price we have not yet decided on.

*"Regulator."*—I wish to make a change in my Swiss regulator; it has a gridiron rod and pin escapement, and I desire to make it self-winding and get up a vacuum case by exhausting the air. (1) What will the vacuum do for it with a mercurial pendulum for making it keep time? (2) Of what material should the case be made, and how thick should the glass (full length) be to stand the atmospheric pressure? (3) Will the motor described in The Keystone wind it, and how many Fuller cells will it require to raise twelve pounds? (4) Would the rim of the escape wheel have to be made lighter, and, if so, would the weight also have to be made lighter? (5) Would a vacuum make any difference in temperature at top and bottom of case? (6) How many storage cells like those you recently described in your journal would it require to wind the weight?

(1) The only improvement a vacuum case would afford your clock would relate only to barometric changes of atmospheric pressure. With a dead-beat escapement having a short arc of vibration the effect of the slight change of atmospheric pressure is almost to be ignored. In a certain degree the so-called pendulum error serves to correct the barometric error in this way: It is well known that the long vibrations of a pendulum are a trifle slower than the short vibrations. Now, as a greater density of the atmosphere has a tendency to shorten the arc of vibration, the shorter arcs being quicker, one error compensates for the other. Compensation for barometric error in clocks has never engrossed to any great extent the attention of the practical makers of precision clocks, as these people are well aware that there are many corrections to be made of much greater importance than any error which could possibly grow out of barometric pressure from day to day. (2) A metal case would be the only material to be relied on, and we doubt if a glass front could be cemented in in such a way as to remain air-tight for any length of time. Some writers have suggested filling a clock case with hydrogen gas, as the resistance to the pendulum would be proportionate to the density of the material. As suggested above, we do not think it a matter worth bothering with. We shall, however, treat this subject exhaustively in our article on clocks in the near future. A glass (16" by 48") for the front should be fully 1" thick, as it will have to stand a pressure of nearly 12,000 pounds. (3) Yes; about four Fuller cells would do the work. (4) There need be no change in the weight of the rim of the escape-wheel, unless it is disproportionately heavy. (5) Not to any appreciable extent. (6) About three.

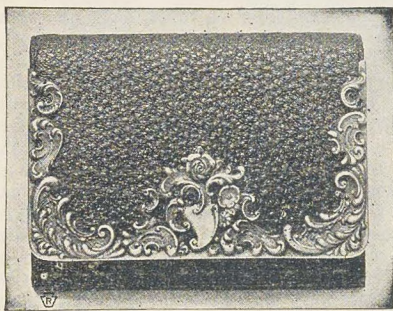


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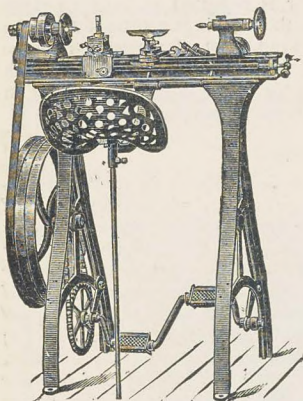
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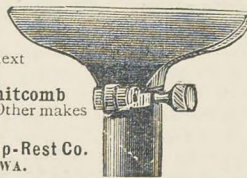
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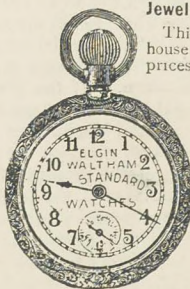
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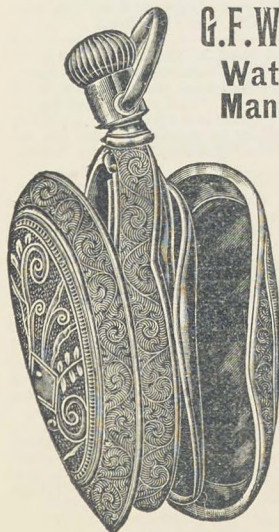
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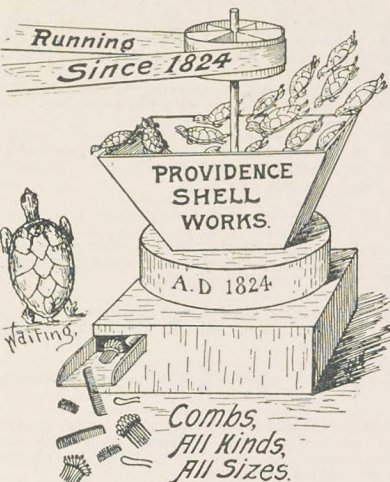


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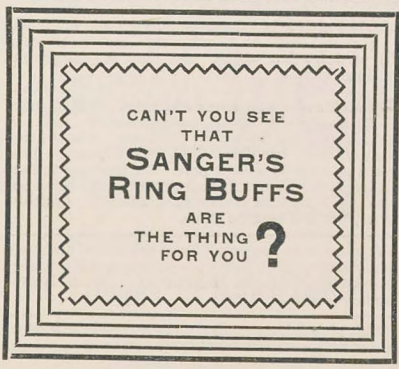
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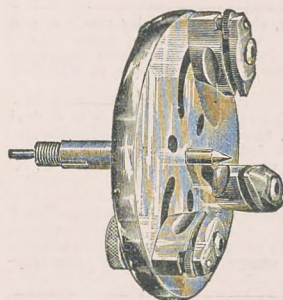
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DO good watch, clock and jewelry repairing, wait on trade; can go any place, at any time, at any wages. Exp. 3 years. Age 23. No bad habits. Low wages. Own tools. W. S. Keister, 306 E. Fair Street, Atlanta, Ga.

TRAVELING salesman—position wanted for '97 by a thoroughly experienced jewelry salesman; territory, Wisconsin, Minnesota, Northern Michigan and Iowa. Best of refs. from present employers. Ad., "D 13," care Keystone office.

BY first-class watchmaker, jewelry repairer, plain engraver and good salesman, with own tools. 12 years' exp. and best refs. T. N. Sykes, Shelbyville, Ind.

PERMANENT position wanted; am qualified to do all kinds of repairing, and not afraid of work. Have lathe and tools. Best of ref. for character and ability. State salary and requirements. Ad., "D 15," care Keystone office.

BY young man, graduate optician, watchmaker, jeweler and plain engraver. Refs. as to ability and character. Ad., "A. D. L.," New Richmond, Indiana.

FOR a lady watchmaker, optician and engraver, a good workman with a good set of tools, good refs. Position desired between St. Paul and the Pacific. Ad., W. F. A. Woodcock & Co., Winona, Minnesota.

A YOUNG man, 21, 3 years at the bench; can do watch, clock and jewelry repairing; can repair bicycles. At salesman. At ref. Box 268, Montgomery, N. Y.

BY young man of 23. Exp. 3 years. Can do all kinds of watch, clock and jewelry repairing, also plain engraving; a good salesman. Sober and industrious. Good refs. Ad., S. H. Ledden, Beason, Ill.

JANUARY, '97. Young man, 25 years old, 10 years' exp. in the retail jewelry business, wants to represent a good house on the road. Responsible refs. Ad., "G 21," care Keystone office.

### SITUATIONS WANTED.

BY a good watchmaker and optician, can furnish best of ref. Ad., Harry Gamenthaler, Barnesville, Ohio.

BY first-class watchmaker, optician and engraver. Have full set tools. At refs. Ad., "H.," Box 18, Chariton, Iowa.

AS watchmaker and engraver, by single man of 23. Good ref. Ad., Frank Waterbury, Augusta, Wis.

BY a young man of correct habits, 3 years' exp. at the bench, and who can furnish best of refs. Address, "C.," Jennings, La.

WATCHMAKER, first-class, thorough, competent workman, having 20 years' exp., fine refs., speaking German and English, desires situation with responsible firm. Can go at once. Large city preferred. Ad., "Watchmaker," 715½ Walnut Street, Chattanooga, Tenn.

JANUARY 10th. By good jobbing jeweler, plain engraver and watchmaker. 6 years' exp. Aged 24. Single. Strictly sober and will furnish best ref. "M 18," care Keystone office.

POSITION as engraver and saleslady. Good ref. Ad., Miss Blanche Carson, Hendersonville, N. C.

AS watchmaker, jeweler. 6½ years' exp. Good habits. Best of ref. Steady, reliable. Competent to take charge. South preferred. Ad., "P.," Box 373, Madison, Ohio.

WILL want a position soon. 12 years' exp. Good refs. furnished. Am an engraver, watchmaker, optician, salesman. Write me. E. S. Stone, Morrison, Illinois.

BY a single man as watchmaker; good at clock and jewelry repairing. Or will buy store. Address, "Jeweler," East Alstead, N. H.

THOROUGHLY competent watchmaker, jeweler, engraver and diamond setter, who is also an accomplished salesman, wants position. 28 years old. "C 17," care Keystone office.

WATCHMAKER, jeweler and engraver; steady habits. Moderate wages. New York, Pennsylvania, Maryland or Virginia. "J. B.," 537 N. Mount St., Baltimore, Md.

PRACTICAL watchmaker and jeweler desires situation. Large exp. in repairs, sales and window-dressing. Best ref. furnished. Would go on road for reliable firm. Ad., Lock Box 22, Sidney Center, New York.

BY a competent young lady watchmaker. Moderate salary. Own tools. First-class refs. Ohio preferred. Ad., Miss Fannie M. Barron, Kent, Ohio.

THOROUGHLY competent watchmaker, optician, able, well-posted salesman, fair engraver. Good character and appearance. Central States preferred. Best refs. "Watchmaker," 1427 Locust Street, Des Moines, Iowa.

FIRST-class jeweler and designer with shop wishes to connect with a first-class jewelry store, West or South, to do their ordered work and repairing; thoroughly understand diamond mounting and setting; can furnish designs and estimates. 25 years' exp. in New York city. For particulars, write to "W 20," care Keystone office.

BY an up-to-date engraver, watchmaker and salesman. Tools complete. Exp. 9 years. Refs. Single. West or South preferred. Ad., Box 376, El Paso, Texas.

PERMANENT position at once, by first-class, experienced watchmaker. Unquestionable refs. Good habits. Good appearance and salesman. Moderate salary if permanent. Ad., Cal. Smoke, 276 Main Street, Buffalo, N. Y.

BY good, experienced letter and monogram engraver, place in good store; can act as salesman. Will work reasonable. Want permanent place. Address, "W 19," care Keystone office.

WATCHMAKER, jeweler and engraver, 7 years' exp. Speaks German, Norwegian and English. Refs. given. Oscar B. Heliikson, Drayton, N. Dak.

BY a single young man as watchmaker, jeweler and clock repairer; good salesman. Good refs. "M 20," care Keystone office.

BY young man, first-class watchmaker, jeweler and salesman. Ad., Box 418, Smith's Falls, Ontario.

YOUNG man as watchmaker, jeweler and salesman. 4 years' exp. at bench. Age 22. Good refs. Will work for fair wages. Ad., Ed. M. Carpenter, 14e Mars, Iowa.

AS watchmaker and letter engraver. Young man, 28 years old, single, unquestionable refs. to workmanship and all-around character. I have a fine situation now, but dissatisfied with climate. Tennessee or near-by States pref. Further particulars will be given. I am a fine all-around man. None but first-class American houses need answer. Address, "P 12," care Keystone office.

BY young man; age 23. Good salesman, first-class on watch, clock, jewelry repairing and engraving. Have bench and tools. Best of refs. W. B. North, Marshall, Minn.

WILL give full particulars to party needing services of an expert watchmaker, jeweler and salesman. Address, "G 22," care Keystone office.

JANUARY 15th, by good, all-around man, 7 years' exp. Age 25. Single. Strictly sober and can furnish At ref. "M 19," care Keystone office.

SCIENTIFIC optician, am also jewelry salesman. Can furnish best of refs. Ad., C. G. Lord, La Porte, Ind.

BY watchmaker, engraver, salesman and graduate optician. 7 years' good exp., 3 years' exp. as proprietor. Thorough workman. Own tools. Good character. Best refs. Ad., "Iowa 7," care Keystone office.

A YOUNG man, 24 years of age, wishes a situation with a wholesale or retail jewelry firm in New York City or vicinity. The very best of refs. Ad., W. S. Macmillan, 34 N. Ferry St., Schenectady, N. Y.

POSITION wanted by watch and clock repairer. Sober and industrious. Ad., "B. B.," 24 Twentieth Street, Wheeling, W. Va.

### SITUATIONS WANTED.

WATCHMAKER and engraver, 16 years' exp., wants situation now or January 1st. Thorough, practical, rapid. Expert on complicated watches; modern methods. Fine modern tools. Good salesman. Married, age 30. Undoubted refs. No bad habits. Address, "S 28," care Keystone office.

BY young man with 3 years' experience. A position where there is a chance for advancement. Wages moderate to start. At references. Address, "S 29," care Keystone office.

A PLACE where first-class watchmaker is required, by a workman of 30 years' experience. Has some knowledge of optics, which he could practically apply if needed. Excellent equipment of tools. Ad., "H 26," care Keystone office.

BY watchmaker, engraver and salesman. First-class reference given. Ad., E. E. Reeder, Springfield, Ohio.

BY graduate optician and jeweler. Good references. Ad., H. W. Howe, Humboldt, Nebr.

WATCHMAKER and druggist, ten years' experience. Low wages. Full set of tools. Engraver and jeweler. Ad., Watchmaker, care E. A. Dayton Jewelry Co., Omaha, Neb.

### HELP WANTED.

UNDER THIS HEADING THREE CENTS PER WORD.

AN A1 man who can furnish unquestionable refs., and thoroughly understands the details of wholesale optical business and is acquainted with American Optical Co. manufacture of goods and all branches of the stock. Good salary and permanent position. Ad., "A 10," care Keystone office.

AN engraver, one who can do jewelry repairing preferred. State salary wanted. Send sample engraving. Ad., Box 97, Grand Forks, N. Dak.

SALESMAN to carry a fine line of souvenir, fancy and enamel spoons as a side line in any of the following States: Maryland, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Kansas, Missouri, Nebraska, Iowa. Write at once with references to Shepard Mfg. Co., Melrose, Mass.

A1 optical salesman for a New York optical house. Carry full line of American Optical Co. and other American and European manufactures of goods. None but experienced men need apply. All competition met. Ad., "A 7," care Keystone office.

A1 man who can furnish unquestionable refs., to take charge of prescription department for a large wholesale optical house. Must be capable of giving out all the work, and understand prescription work thoroughly. Good salary and permanent position guaranteed. Ad., "A 9," care Keystone office.

GOOD lens surface grinder. Ref. required. Apply H. C. Boden & Co., S. E. cor. 13th and Walnut Streets, Philadelphia, Pa.

WATCHMAKER, engraver and salesman, also watchmaker, optician and salesman. Permanent position. Send photo, sample of engraving, give ref., state salary. Ad., Sheff Bros., Wheeling, West Virginia.

FIRST-class watchmaker, accustomed to complicated, fine-grade watches, one who can engrave preferred. State refs. and salary wanted. Address, Box 97, Grand Forks, N. Dak.

ONE A1 refractionist, who is also a good salesman. Must have unquestionable refs. as to ability and honesty. Good salary. Apply, "A 8," care Keystone office.

### WANTED.

UNDER THIS HEADING THREE CENTS PER WORD.

YOU to send a dollar bill and get by return mail a new book which fully explains how to correct the latent defects of vision without mydriatic. Testimonials and prospectus free. Ad., W. G. Fay, Springfield, Ohio.

A TRANSIT for taking time, must be reliable and cheap. Box 111, Marshallton, Pa.

OPTICIAN with stock and testing apparatus, to sell his goods in my store during holidays. No optician here. Excellent opportunity. Ad., "K 19," care Keystone office.

DEMAGNETIZER wanted, must be in first-class order. Ad., "Cash," Box 758, Campello, Mass.

A MAN with some capital (as partner), who understands the drug business. Am a jeweler, have fine stock. Ad., Box 413, Waukon, Iowa.

WALL cases for silverware. Must be cheap and in good order. J. F. Butler, Potsdam, N. Y.

GOOD ophthalmometer, Hardy preferred, condition perfect. Charles Simanton, St. Johnsbury, Vt.

SECOND-hand trial-case, good. H. C. Lederer, Manning, Iowa.

EVERY kind of gold and silverware, jewelry, watches, platinum. Market value paid. Send by express or registered mail. Price not satisfactory, I will return all articles. J. L. Clark, refiner and sweeper of gold and silver (established 1870), 724 Filbert Street, Philadelphia, Pa.

GOOD American lathe with universal head, slide-rest, cutting and foot-wheel. Also Lancaster or Monarch engraving block. Must be cheap. Cash. Juillard, 855 Camp St., New Orleans, La.

### FOR SALE.

UNDER THIS HEADING THREE CENTS PER WORD.

AN established jewelry business in a Michigan city of 50,000 population. Good location, good store, stock and fixtures. A splendid opening for a man to serve fine trade. About \$5000 cash will secure it. Address, "R 20," care Keystone office.

A WELL-ESTABLISHED jewelry business in a growing manufacturing city of 15,000 in Pennsylvania. Well located; good fixtures. Invoice about \$4000. Easy terms, or will take active partner. Fine chance for a young man. Answer at once. Address, "T 16," care Keystone office.

### FOR SALE.

THE fine gold hunting Jurgensen watch owned by the late Sherman Gregg, of Rochester, N. Y. Good as new. Apply to Mrs. Sherman Gregg.

ESTABLISHED, good paying jewelry business in a progressive town in Ohio, of 10,000; well located; new fixtures. Invoice \$5000. Can reduce or give easy terms. Ad., "S 25," care Keystone office.

THE right party can buy out a well-established jewelry business in a prosperous Kentucky town of 2500 population. \$1000 cash will close the deal. This is a splendid opening. Ad., Albert Bros., wholesale jewelers, Cincinnati, Ohio.

JEWELRY store, established 25 years, in Mt. Carroll, Ill. For particulars, address, Box 41, Mt. Carroll, Ill.

BACK number Keystone. Ad., Byron Winslow, Earling, Iowa.

AT once, to close an estate, jewelry business, established 20 years in a town of 16,000 inhabitants. Good business and small expenses. Only cash buyers. Ad., "F. B. H.," 107 Stanwix St., Rome, N. Y.

SECOND-hand jewelers' goods: 1 American lathe, with center shaft, foot-wheel, seventeen chucks and 1 bezel chuck; 1 set of Boley staking tools; 1 new style balance-wheel, with truing caliper; 1 Stephen's new style swivel vise with automatic jaw; 1 Waterbury regulator. For particulars, write A. L. & T. A. Miller, St. Thomas, N. Dak.

AT half price, complete steel outfit for stamping emblems, badges, keychecks, etc. Ad., Box 146, Manchester, Pa.

LENS-drilling machine for spectacle lenses; mill, drill and broach the hole perfectly; complete with diamond drill, ready for foot or motive power. Every machine carefully tested and fully guaranteed. If not satisfactory, money cheerfully refunded. Send \$18.50 to Optical Machine Co., Box 827, Pueblo, Colo.

JEWELRY stock, consisting of good set tools, show cases, large safe, small stock. Invoices \$900. Will sell cheap. Location, county seat, 2500 people; only one other store. Good crops. Proprietor seriously ill. H. C. Bruner, Geneva, Neb.

STOCK and fixtures, will invoice about \$1000. Located in Louisiana; railway town; 3500 inhabitants. Doing good business. Write for particulars and reason for selling. Ad., "D 14," care Keystone office.

CHRISTMAS presents. Two beautiful parrots of best talking varieties, price \$10 and \$15 each. Krueger, Wrightsville, Pa.

SPLENDID chance for a watchmaker and optician, in a town of 6500, situated in one of the best agricultural counties in Missouri; doing a good business and all the work two men can do; handsome plate-glass fixtures and clean up-to-date stock; invoice \$8500. Small opposition. Must sell on account of failing health. "L 21," care Keystone office.

ONE set of tools in A1 condition, cheap. R. L. Grimes, Keota, Iowa.

\$3500 BUYS my jewelry store, 20 miles from New York City; summer population about 15,000 people. Good chance to make money. The only store in town. I wish to retire from business. Ad., W. S. Weeks, Far Rockaway, N. Y.

IN New York City, an old established business in a good location; stock and fixtures about \$4000; repair work about \$300 month. Retiring from business. An unusual opportunity. Ad., Bergstein & Son, 20 John Street, New York City.

JEWELRY store. Receipts average \$7000 yearly; repairing about \$2400. Invoice \$5000; will reduce stock to suit, or sell fixtures without stock. Easy terms. Must sell. Cause, ill health. L. T. Colwell, 134 Vernon Ave., Brooklyn, N. Y.

FOR sale—wholesale optical business at great bargain; present location 7 years; can be handled with from \$2000 to \$3000 cash. Parties retiring. Apply at once. F. B. Fellows, 113 Adams St., Chicago.

PAYING jewelry business in live town. Established 25 years. No competition. Benchwork alone pays \$50 monthly. Clean stock. Will sell for \$1500 cash. Ill health reason for selling. W. C. Bailey, Winthrop, Maine.

\$350—WATCHMAKING and jewelry repairing business, including good-will and fine standing regulator, mercurial pendulum, cost \$200, 11-drawer watchmaker's bench, safe, show-case, wall closet, all new. \$100 repairing per month. Good reasons for selling. In the State of Connecticut. Ad., "S 27," care Keystone office.

GOOD screw-cutting lathe, mill with universal head, tools for both. Edward Anderson, Sundance, Wyo.

AFTER January 1st, the leading jewelry and bric-a-brac store in a thriving Ohio city of 14,000 inhabitants. Ad., "L 20," care Keystone office.

NICE, clean stock of jewelry, silverware, etc., including fixtures; nice location and thriving business. Ad., Hockett Co., Red Oak, Iowa.

I HAVE a branch store in the second best gold mining camp in Colorado, also a good silver camp, when silver mining pays; stock clean and new; store modern. In pretty town. Stock and fixtures \$4200. More than half in watches and diamonds. Good run of work. Fine opening for good man. Am too old to attend to it. Write "Jeweler," Box 592, Salida, Colorado.

JEWELRY and optical business, invoicing from \$2500 to \$3000, must be sold; guarantee best location; low rent; good room. Satisfactory reason given on application. J. L. Zesiger, 344 Jennings Ave., Cleveland, Ohio.

GRANDFATHER clock. R. A. Fincher, Thomas-ton, Georgia.

RARE chance for young man without tools; will sell tools, material and business on easy terms to right man. No other jeweler in place. Established 8 years. 1000 population. Have to devote my time to drug business. W. D. Burd, Black Rock, Ark.

3000-POUND burglar and fire-proof safe, tools, regulator, trays, sign, bench, foot-wheel, watch rack, lathe, glasses, polishing lathe, \$500; jewelry and spectacles. Ad., Isaac Deller, Mineral Point, Wisconsin.



## FOR SALE.

ONE of the best paying jewelry, silverware and bric-a-brac stores in Philadelphia is for sale, the whole thing, stock, fixtures and lease; fine store and in the best location; ill health the sole reason for selling; established 1855. Geo. Eakins & Son, 930 Chestnut St., Philadelphia, Pa.

GENUINE Moseley chucks for No. 1, 1x2 and 2 lathe for 65 cents apiece. Thos. J. Juzek & Co., Elgin, Ill.

ESTABLISHED 15 years. \$7000 takes everything. Get rent free and collect \$21.50 every month. I will stay with buyer until well established. G. C. Smith, 3934 Archer Ave., Chicago, Ill.

PENS—450 fourteen-karat gold pens and feeders. Send your bid. Hull & Son, Warren, Ohio.

AMERICAN lathe, 24 chucks, in first-class order, size 1½, price, \$20 cash. Guaranteed perfect. Used 5 years. James F. Lukens, Union City, Tenn.

STOCK and fixtures of the only jewelry store in Mt. Holly Springs, Pa., population 1500. An elegant opportunity for young beginner. Stock and fixtures invoice about \$600; can be reduced to suit purchaser. Low rent. Reason for selling, have another store. Ad., C. F. Reitling, Agt., Carlisle, Pa.

ONLY store in northern Indiana town of 1300 population. Just the place for a beginner. E. H. Shelman, Walkerton, Ind.

JEWELRY store Southwest Texas. Small sum buys. Full particulars, address, "K 18," care Keystone office.

FOR sale, 8 new trays, 2 countershafts, lathe and attachments, and other goods too numerous to mention. Address, Byron Winslow, Earing, Iowa.

TOOLS and material, complete outfit, including lathe in good condition. Cost \$200; will sell for \$100 cash. "S 39," care Keystone office.

SWISS rounding-up wheel machine with 15 cutters. The tool and cutters in good condition and accurate. Price, \$10. J. T. Little, 535 Smithfield Street, Pittsburgh, Pa.

JEWELRY store which will pay you back your money during the month of December. An excellent opening for the right man. Call at once if you wish to purchase. Ad., Box 95, Woodland, Iowa.

MOSELEY lathes. We have purchased the entire stock of Moseley lathes, No. 2, from the assignee. Write for figures. Thos. J. Juzek & Co., Elgin, Ill.

## FOR SALE OR EXCHANGE.

UNDER THIS HEADING THREE CENTS PER WORD.

COPPER-plate printing press, for plating dynamo or bicycle. Geo. T. Beeland, Macon, Ga.

FRANCIS engraving machine, with 7 fonts of type and attachments, to exchange for good bicycle. Box 43, Laurens, S. C.

GOOD set jewelers' tools, including Moseley lathe, 25 chucks, face-plate, etc., Francis engraving machine and fine Swiss regulator movement. Will sell or trade all or part. Want chronometer or trial case. C. A. McGregor, Pontiac, Ill.

SAUNIER'S horology; what have you? F. H. Howard, La Cuyne, Kan.

ONE Ben. Franklin Excelsior dynamo and gold, silver, nickel and copper plating outfit; everything necessary; suitable for a jeweler. Will exchange for a lathe, tools, test-case, bicycle or anything useful. Ad., "Optician," Box 132, Selma, Ala.

NEW slot machine, Odell double-case typewriter, gold pens and an electric medical battery. Box 562, Lanark, Ill.

RARE bargain. Business clears \$200 per month. Invoice \$2500; can reduce. Credit; or good real estate in part. S. B. Prowell, Hailey, Idaho.

WATCH-glasses and mainsprings, to exchange for optical trial case. E. Curtis, Lemont, Ill.

GOOD bicycle, for lathe and attachments. R. E. Pittman, Grifton, N. C.

IMPROVED Victor cushion tire, spring fork bicycle, for lathe and attachments. H. H. Derr, Arkansas City, Kansas.

MOSELEY lathe, cheap, or trade for kodak. H. W. Howe, Butler, Mo.

## SPECIAL NOTICES.

UNDER THIS HEADING THREE CENTS PER WORD.

ENGRAVING taught in a way that it is fascinating to the learner, and in the quickest possible time. Our students are showing progress that is surprising. The Ezra F. Bowman Technical School, Lancaster, Pa.

SEE W. F. A. Woodcock & Co.'s ad., page 880.

\$10 REWARD for the return of 18 size, hunting, filled case No. 134767, 15-jeweled Waltham movement No. 3799057, to John Booth, Stevens Point, Wis.

## BUSINESS NOTICES.

UNDER THIS HEADING THREE CENTS PER WORD.

WE want your repairing. All kinds of fine watch and jewelry repairing done for the trade. Prompt attention to hurry-up jobs. D. M. Quarles, Jr., Park and Ewing Streets, Guthrie, Ky.

EVERYONE to know that Parsons' Horological Institute, Peoria, Ill., has all the latest improved, the largest assortment of tools and the best equipped school in this country.

ASSORTED Swiss mainsprings, 50 cts. per dozen. Ad., R. Jaegermann, St. Louis, Mo.

THE Elgin Horological School is still making competent workmen for the trade. Watch and jewelry repairing, engraving, etc., taught in a thoroughly practical manner. Terms to suit the hard times. Send for circulars to the Elgin Horological School, Elgin, Ill.

## BUSINESS NOTICES.

IF you ever have any diamonds, rubies, emeralds, sapphires, pearls or other precious stones, either loose or mounted, offered to you for sale by your customers and you do not care to buy them yourself, send them to us and we will submit an immediate cash offer. Chas. S. Crossman & Co., 3 Maiden Lane, New York.

WANTED—all interested to send to the Peoria Horological School for circular. 1426 Main St., Peoria, Ill. Try our trade work. See advertisement on page 892.

WHY not send me your watch cases that need repairing? Can replace any part of a case. G. F. Wadsworth, 182 State St., Chicago.

STUDENTS desirous of learning watchmaking, engraving and jewelry repairing should at once write for a circular to the St. Louis Watchmaking School, the largest and best in the United States. Terms reasonable.

OLD strung pearl jewelry altered and repaired. Prices low. Pearls purchased. Augustus Dubosq, 728 Chestnut St., Philadelphia.

THE Elgin Watch Repairing School has some special inducements to offer to those who wish to learn the watchmakers' trade in a thoroughly practical manner in the least possible time, and at very low terms. Ad., for information, the Elgin Horological School, Elgin, Ill.

ENGRAVING for the trade. Best work, lowest prices. Work usually returned same day received. Sketches for monograms and other fine work submitted. Send trial jobs. Ezra F. Bowman, manager, Lancaster, Pa.

EVERYONE to know that Parsons' Horological Institute, Peoria, Ill., has all the latest improved, the largest assortment of tools and the best equipped school in this country.

THE St. Louis Watchmaking School occupies the entire building, designed and built expressly for this purpose.

HAVE you an old English watch case you want changed into American stem-wind? If so, send it to me, and I will guarantee satisfaction. G. F. Wadsworth, 182 State St., Chicago.

SEND us your difficult jobs in watch and jewelry repairing. The only first-class trade shop in the South. D. M. Quarles, Jr., cor. Park and Ewing Streets, Guthrie, Ky.

GOLD and silver plating, satin finish, engraving, engine turning, everything in the line of watch case repairing. G. F. Wadsworth, 182 State St., Chicago.

OUR course of study is a thorough one. Every subject is freely discussed until clearly understood. We begin at the first principles of light, and carry the student steadily forward through the entire optical science. We perform experiments with mirrors and lenses. We dissect and study the eyes of animals. Astigmatism and muscular defects receive especial attention, and thorough drill on the use of prisms and the transposition of prescriptions is given each pupil. Read our advertisement, page 868. South Bend College of Optics, South Bend, Ind.

ASSORTED watch glasses, 50 cts. per gross. Ad., R. Jaegermann, St. Louis, Mo.

EVERYONE to know that Parsons' Horological Institute, Peoria, Ill., is the oldest and best in this country.

WHERE to receive the highest cash price for every kind of gold and silver. Refiner of sweeps, filings, brushings, polishings, everything containing gold and silver. Fine gold, silver, copper for sale. J. L. Clark (established 1870), 724 Filbert St., Philadelphia, Pa. Send by mail or express; prompt attention given.

THE best work for the least money at the Peoria Horological School, Peoria, Ill. No student work. See advertisement on page 892.

THE instructors of the St. Louis Watchmaking School have been teaching watch and clock repairing, engraving, repairing and manufacturing jewelry for over 20 years, in Europe as well as in the U. S.

EVERYONE to send to Parsons' Horological Institute for catalogue of terms, etc. Peoria, Ill.

TROWBRIDGE & Co.'s is the second horological school in the United States and infinitely the best. We offer special inducements to new applicants, on a new basis, by paying their tuition monthly in advance, cheaper than annually in advance. This proposition limited in numbers. The first to apply get the benefit of the reduction. For the standing and efficiency of our School, we refer you to any of the graduates therefrom. See our advertisement in the July number of The Keystone, page 527. For our new catalogue, address, Trowbridge & Co., Winona, Minnesota.

SEND for terms and prices at the Peoria Horological School. We guarantee perfect satisfaction, or money refunded.

The St. Louis Watchmaking School has a special department for engraving. Terms reasonable. Instructors the best.

THE St. Louis Watchmaking School is occupying the entire building, 2308 Locust Street, and has more room and light than any other school of this kind.

EVERYONE to send watchwork to Parsons' Horological Institute, Peoria, Ill. The first, the oldest and the best school in this country.

THE drawing-room of the St. Louis Watchmaking School is decorated with the most exact drawings of all the different escapements and parts of watches and clocks, which is of great assistance to the students.

IN our college you can attain a thorough optical education at one tuition fee. There is no limit to time. You will receive individual instruction, and are entitled to remain until you are thoroughly competent to start for yourself. Instead of a series of lectures, the instructor sits down beside you and explains each subject. You are not only told how to handle the different instruments, but have an opportunity to handle them yourself. You will have practice and drill until you can make every test quickly and accurately. We want to tell you more about our College. We want you to ask us questions about it. Our prospectus, "How to Become a Good Optician," will be sent free, if you ask for it. See advertisement page 868. South Bend College of Optics, South Bend, Ind.

## BUSINESS NOTICES.

IN our correspondence department you can become a skillful optician without leaving home. You do not lose a moment's time from business. Lessons are gone over, difficult points re-explained, and quizzes conducted just as if you were right here with us. You receive the same personal attention as our attendant pupils. You are in constant touch with us, and are made to feel that you are one of us. You are taught all the methods of making examinations, and the best manner of making the tests. If you will enter the work earnestly, and follow our instructions, we will promise to make you a thorough, scientific optician. Our prospectus tells all about this course. Yours for the asking. South Bend College of Optics, South Bend, Ind.

\$300 value for \$100 given by the Omaha Watch Repairing, Engraving and Optical Institute. Either course worth more than \$100 to any one who wants to learn this business thoroughly. One price pays for all. Every one of our students that becomes proficient while here, either holds a good position or is making money for themselves. We have more applications for watchmakers and engravers than we can fill, as our recommend amounts to something besides the paper it is written on. For particulars, address, 406 Sheely Block, Omaha, Nebraska.

South Bend College of Optics,  
South Bend, Ind.  
THE KEYSTONE,  
Philadelphia, Pa.

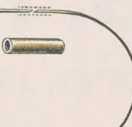
Gentlemen:

I want to say THE KEYSTONE is "all right" as an advertising medium. I have been simply flooded with mail for the past three months. I would never have believed that an advertisement in one paper could produce so great results.

Dr. H. A. THOMSON,  
President.

Display adverst., \$2.50 per inch per column.  
Smallest adverst. inserted, one inch.

Schirmer's Ferrules  
in Gold and Silver



for mending riding temples. Now put up in two kinds of packages—one has twenty-four 10 K. gold ferrules, price \$1, the other has twelve 10 K. gold and twelve silver, price 75 cents. Sizes to fit any riding temple.

FOR SALE BY ALL JOBBERS.

C&O  
ROUTE  
Chesapeake and Ohio Route

"The Rhine, the Alps and the Battlefield Line."

The most interesting historic associations and the most striking and beautiful scenery in the United States are linked together in this system.

THE  
Famous F.F.V. Limited  
FAST FLYING VIRGINIAN

IS THE ONLY SOLID VESTIBULED TRAIN,  
ELECTRIC-LIGHTED, STEAM-HEATED,  
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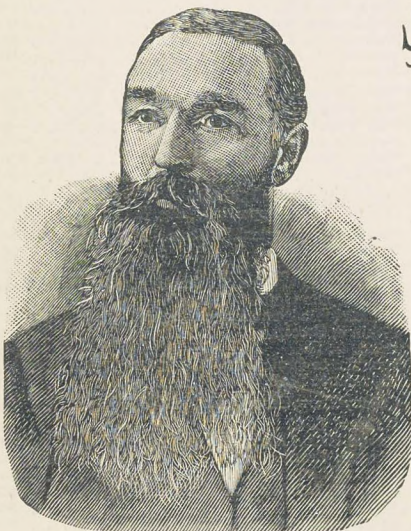
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(See pages 395, May, 410, June, 563, July KEYSTONE, for other references.)

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March, 1896, Lawrence, Kan.—Wm. M. Rowe.  
April, 1896, Pleasanton, Kan.—Geo. W. Waymere.  
April, 1896, Salisbury, Mo.—C. M. Rumsey.  
May, 1896, West Point, Miss.—Wolff & Leslie.  
June, 1896, Sherman, Tex.—Burnett Ansley Jewelry Co.  
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Woodland, Cal., April 28, 1896.

TO WHOM IT MAY CONCERN:

Mr. H. J. Hooper has just finished a sale for me. He realized \$4800 for me in eleven days. I can highly recommend him as an auctioneer, orator and a gentleman.

Yours truly,

A. E. BOCKS.

San Jose, Cal., July 29, 1896.

TO WHOM IT MAY CONCERN:

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Yours respectfully,

J. M. SCHLESINGER,  
190 South First Street.

Modesto, Cal., August 24, 1896.

TO WHOM IT MAY CONCERN:

We do most cheerfully recommend Mr. H. J. Hooper as an auctioneer. He is an orator, both entertaining and amusing. He has just closed a most successful sale for us. After the second day we were compelled to move to the largest public room in Modesto, and then we could by no means accommodate the crowds. When the people once hear him they will not stay away. He is a first-class salesman and thoroughly understands diamonds, watches, clocks, jewelry and silverware of all the leading manufacturers. There is none better than Hooper.

ANDREWS & WOOD, Jewelers.

Modesto, Sept. 12, 1896.

TO WHOM IT MAY CONCERN:

Mr. H. J. Hooper, of San Francisco, has just closed a most successful auction sale for us, and to say that we are satisfied with him is expressing it mildly, as we consider the sale phenomenal (amounting to \$15,000), considering the time of year and the condition of the country. We most cheerfully recommend him to any one.

Respectfully,

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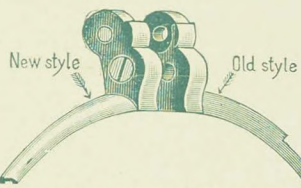
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WE MANUFACTURE AND IMPORT OPTICAL GOODS EXCLUSIVELY

The items mentioned form a part of our 200-page Catalogue, which is up to date.

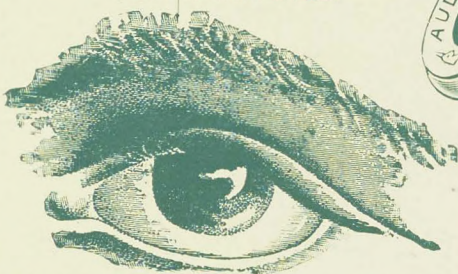
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Made by patented process owned and controlled by us, and guaranteed not to break at joints and nosepieces. Quality guaranteed. For prices see catalogue.

## THE BEST KNOWN REMEDY FOR WEAK EYES



## The Great German Eye-Water

Cures inflammation, scaly and granular eyelids. Recommends itself.



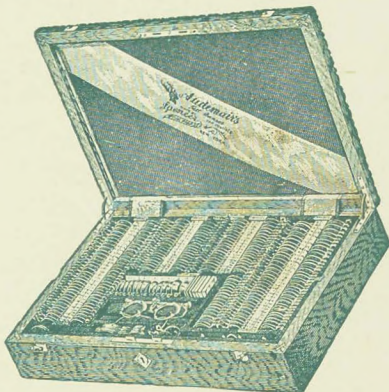
WE MAKE

## SPECTACLES AND EYE-GLASSES

of every material and grade, at prices that will secure your patronage.

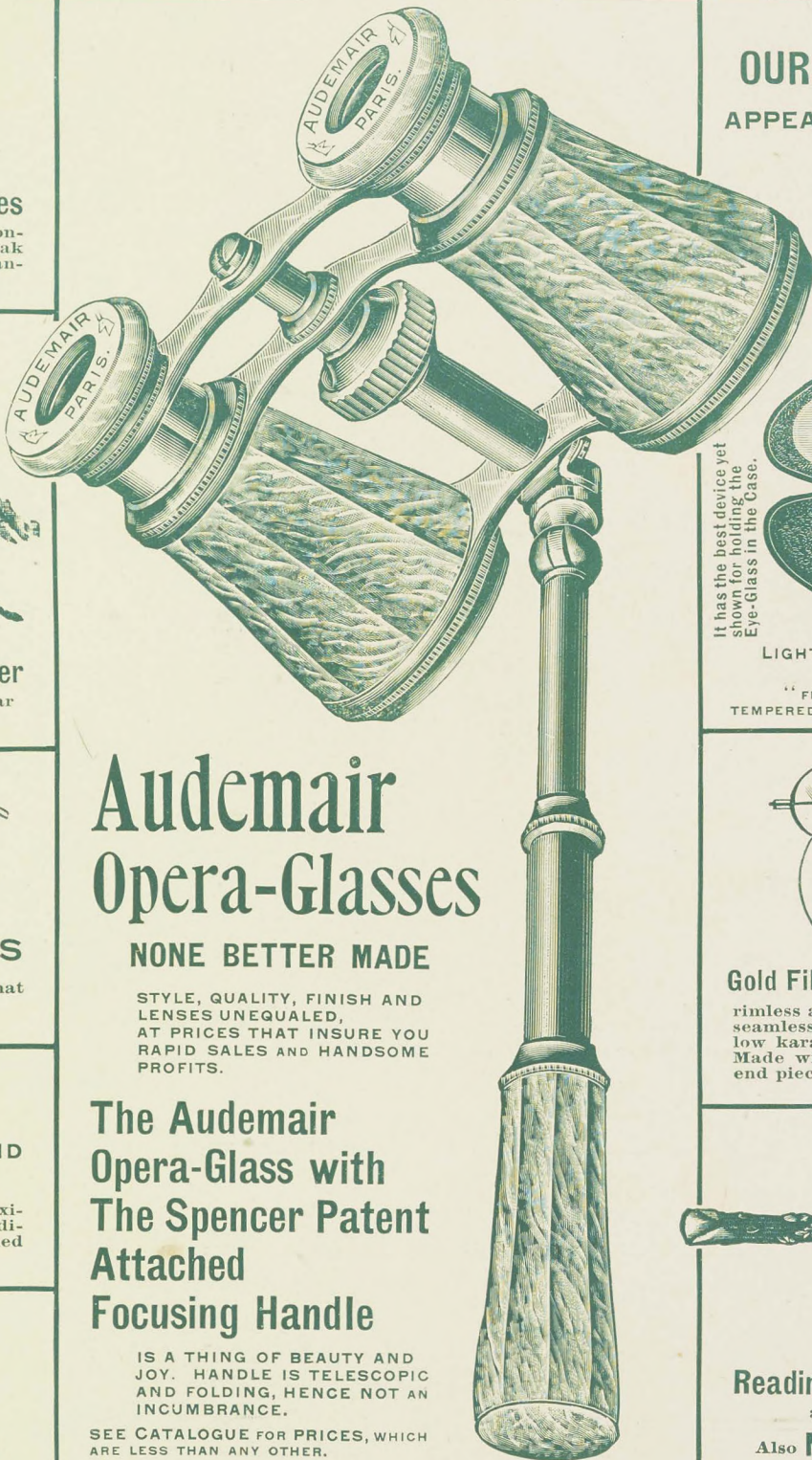
## RIMLESS OR SKELETON SPECTACLES AND EYE-GLASSES

that are made of Nickel Silver will not oxidize, rust, tarnish or corrode under ordinary climatic conditions, and have earned the name "Non-Corrosive."



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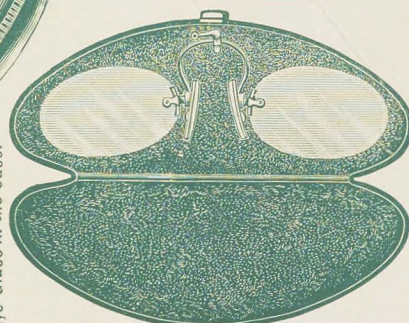
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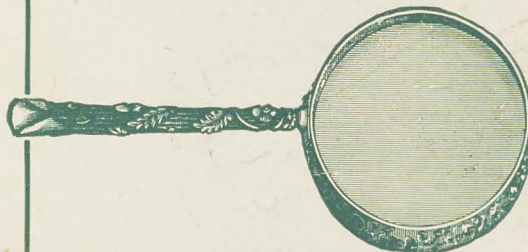
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rimless and with frames, made from Burdon seamless filled stock, are taking the place of low karat gold and give entire satisfaction. Made with plated, gold filled or solid 10 K. end pieces.



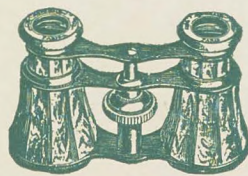
Reading Glasses in German Silver, Nickel and Celluloid at extraordinarily low prices.

Also Magnifiers of every description.



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We control the production of two large factories in Paris, and can supply Opera, Field and Marine Glasses to suit your trade, at unheard-of prices.

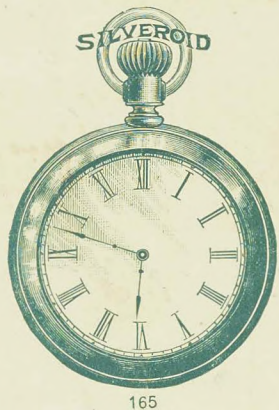
**Spencer Optical Manufacturing Co.** 15 Maiden Lane, New York  
 FACTORIES—New York, Newark, Paris



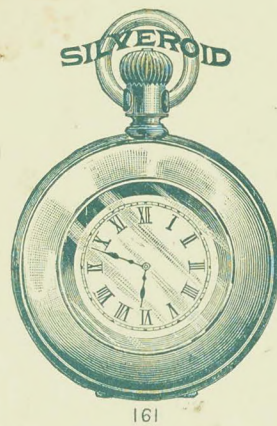
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You will recognize a Holiday stock-essential in the two styles of nickel Chatelaine cases here illustrated—one Open-Faced and one Skylight.



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**ONE DOLLAR**  
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